Clearinghouse Rule 09-123

ORDER OF THE STATE OF WISCONSIN
NATURAL RESOURCES BOARD
AMENDING, REPEALING, AND CREATING RULES

The Wisconsin Natural Resources Board proposes an order to repeal NR 105.08 (4) Table 8 43., NR 110.03 (5), NR 110.03 (20), NR 110.03 (24), NR 110.05 (5) (g), NR 110.08 (3) (b), NR 114.18 (2), NR 114.18 (4) and (5), NR 114.23 (4), NR 205.07 (1) (r) 4. and (Note), NR 205.07 (1) (u), NR 214.16 (2) (e) and (f) and (3) (e), NR 812.08 (4) (b) 11. (Note), to renumber NR 114.18 (6), to renumber and amend, NR 11.0.14 (6), NR 110.14 (7), NR 114.18 (3), NR 114.23 (5), to amend NR 102.10 (1) (b) 1. and 2., NR 102.10 (1) (d) 10., 17., 22., 29. and 30., NR 102.10 (1) (f) 1d., 2p.,6., 8., 10., 20., 22. and 22m., NR102.10 (1m) 2., 3., 4., 5., 6., 9m., 10., 13., 14., 17., 18. and 20., NR 102.11 (1) (b) 1., 5., 12., 15., 16., 23., 27., 33., 34. and 37., NR 102.11 (1) (d) 5., 8., 15., 17., 28., 34., 39. and 42., NR103.05 (3), NR 103.08 (1k) (e), NR 103.08 (1m) and (note), NR 105.06 (5) (h), NR 105.06 (8) (a), NR 105.06 Table 4B, NR 105.06 Table 5 and note, NR 105.08 (4) Table 8 2., 5. and 33., NR 105.09 (3) Table 9 36. and 38., NR 106.05 (5) (a), NR 106.06 (4) (e) (title), NR 106.07 (2) (intro), (a) and (b), NR 106.08 (5) (a), NR 106.115 (1), NR 106.88 (3), NR 108.04 (2) Note, NR 108.04 (2) (b), NR 108.04 (5), NR 110.03 (3), NR 110.03 (9), NR 110.03 (22), NR 110.05 (2) (c), NR 110.05 (5) (c), NR 110.05 (6), NR 110.08 (3) (a), NR 110.09 (2) (j) 2., NR 110.09 (2) (j) 3. b., NR 110.09 (2) (j) 4. b., NR 110.09 (8) (b) 2., NR 110.13 (1) (d) 1. and 2., NR 110.13 (2) (i), NR 110.13 (2) (k) 1., NR 110.13 (5) (a), NR 110.13 (5) (e) through (h),NR 110.14 (1) (b), NR 110.14 (2) (b) 3., NR 110.15 (2) (a), NR 110. 15 (4) (c), NR 110.15 (5) (c), NR 110.18 (2) (d), NR 110.19 (5) (b) 2., NR 110.19 (6) (b) 1., NR 110.24 (3) (d) 3., NR 110.24 (4) (d), NR 110.21 (4) (b), NR 110.21 (4) Table 5 (title), NR 110.21 (4) (d) 5., NR 110.21 (5) (b) and (c), NR 110.21 (6) (a) 2., NR 110.21 (6) (b) 1., NR 110.22 (5) (b) 3., NR 110.22 (5) (c) 4., NR 110.22 (6) (c), NR 110.22 (7) (c), NR 110.23 (2) (d), NR 110.23 (2) (e) 2., NR 110.24 (2) (b), NR 110.24 (6) (a) through (c), NR 110.25 (5) (b) 1. and 3., NR 110.25 (5) (c) 3. and 5., NR 114.153 (5), NR 114.16 (1), NR 114.18 (title) and (1), NR 114.19 (8), NR 114.23 (1) and (2), NR 114.24 (1), NR 200.03 (1), NR 200.06 (2), NR 203.13 (3) (b), NR 205.07 (1) (n), NR 205.07 (1) (r), NR 205.07 (1) (v), NR 205.07 (2) (d), NR 210.08 (1) (a) and (b), NR 210.11, NR 214.02 (2), NR 214.16 (6), NR 299.04 (1) (b) 7., NR 299.05 (3) (f), NR 328.03 (9), NR 328.03 (15), NR 328.05 (6), NR 341.09 (1) (b) and (c); NR 812.08 (4) (b) 11., to repeal and recreate NR 106.03 (6), NR 110.05 (4), NR 110.14 (2) (a) 3., NR 110.14 (3) through (5), NR 210.08 (2), NR 214.16 (2) (d), and to create NR 102.10 (1) (b) 3. through 5., NR 102.10 (1m) 4m., NR 102.11 (1) (d) 26 b., NR 110.03 (12g), NR 110.14 (6) through (8), NR 110.14 (10) and (11), NR 110.15 (3) (e), NR 114.153 (4m), NR 114.18 (3), NR 114.20 (1) (e), NR 214. 12 (4) (c), NR 214.13 (4) (c), NR 214.14 (4) (c), NR 214.15 (4) (c), NR 214.16 (4) (c), NR 214.17 (5) (c), NR 214.18 (5) (d), NR 299.05 (3) (fm), and NR 328.35 (3) (p) relating to revisions to fix typographical errors, make minor modifications or clarification, ensure consistency with federal regulations, code reference update or make technological updates for rules affecting the Bureau of Watershed Management.

WT-15-09

Summary Prepared by the Department of Natural Resources

Statutory Authority: ss 30.12, 30.19, 227.11, 281.11, 281.12, 281.15, 281.17, 281.41, 283.11, 282.13, 283.31, 283.37, 283.39, 283.49, and 283.55, Stats.

Statutes Interpreted: ss 30.12, 30.19, 281.15, 281.17, 281.41, 283.13, 283.31, 283.37, 283.39, 281.49 and 282.55, Stats

Explanation of Agency Authority: The Department has authority under ss 30.12, 30.19, 227.11, 281.11, 281.12, 281.15, 281.17, 281.41, 283.11, 283.13, 283.31, 283.37, 283.39, 283.49, and 283.55, Stats., to promulgate rules and clarify process.

Related statute or rule: These rules relate directly to regulation of activities in wastewater discharge permits or in navigable waters under ch. 30, Stats., waters designations in ch. NR 1, and the chs. NR 100, 200, and 300 series rules.

Plain Language Analysis: The purpose of this rule update is to modify the existing rules to clarify, make consistent with federal regulations, clean up typographical errors, incorporate technology advances, or make minor modifications. The Bureau of Watershed Management has not undertaken the effort to clean up our rules and therefore this rule package is fairly large since several rules affect the Bureau and need to be updated and corrected.

In ch. NR 102, clarifications and typographical corrections are proposed. In addition, an update to provide consistency with revised state statutes has been made. NR 102 is the chapter that contains the listing waterbodies for outstanding or exceptional resource waters. There are several recommended pages of changes (13 pages in the ORDER). This code has primarily been changed to reflect typographical errors in the original listing of these waters, or if the water exists in more than one county, we have added the other county. To be consistent with the addition of two Wild Rivers (Brunsweiler and Totagatic Rivers) to State Statute s. 30.26 in early 2009, language was refined and portions of these two existing ORW waters were moved to the Wild Rivers section of NR 102; however, this does not affect their status as ORW. With the exception of the 2009 statutory based additions, there are no additions of new waterbodies, only corrections to the ones currently on the list.

NR 103 is the chapter that contains Water Quality Standards for Wetlands and the changes proposed are technical changes to reflect s 281.36, Wis. Stat., , a statute that was adopted after the rule went into effect.

NR 105 is the chapter that contains surface water quality criteria and secondary values for toxic substances. The changes requested for this chapter are typographical errors or values that have been updated because of new analytical methods. The changes to Table 9 in ch. NR 105 are done to reflect changes to Federal drinking water standards and are consistent with changes that were made in ch. NR 809. All other numerical changes are typographical errors.

NR 106 is the chapter which contains procedures for Calculating Water Quality Effluent Limits for substances discharged to surface waters. Changes to this chapter are primarily for clarification or typographical errors.

NR 108 is the chapter which outlines the Requirements for Plans and Specifications submittals for reviewable projects and operations of community water systems, sewerage systems and industrial wastewater facilities. The changes include technology updates requesting electronic submittals in addition to paper copies of final plans and specifications. To be consistent with federal regulations, the department proposes modification to s. NR 108.04 (5).

NR 110 is the chapter containing requirements for Sewerage Systems. Most of this rule package contains changes to this chapter, which needs to be updated primarily because of confusion on how to implement this rule (22 pages in the ORDER). Many changes are recommended to clarify the rule; other changes are because of technological updates. Revisions to this chapter are proposed to revise and clarify requirements for lift station design, influent and effluent flow monitoring, and to clarify language which has been commonly misunderstood. While these changes are voluminous, they reflect current practice and are not substantial, they are minor changes that make this rule more understandable and easier to implement. Revisions to ch. NR 110 are proposed to revise and clarify requirements for lift station design and influent and effluent flow monitoring and to clarify existing language. A related change to the current s. NR 110.14(3)(h)4. is proposed that would require alarm signals from lift stations to be telemetered to responsible authorities. Current code states that the Department "may require" telemetering for large or main lift stations. Requiring telemetering is consistent with the "Recommended Standards for Wastewater Facilities" (also known as the "Ten State Standards") and reflects current standard practice. An exception to the telemetering requirement would be made for lift stations serving three residential units or less. Ensuring emergency operation at sewage lift stations is critical for preventing sanitary sewer overflows and for protecting public health.

Another more significant proposed change for lift stations is that a new subsection on simplex and duplex grinder pump stations will be added. The existing code does not provide adequate information on the installation of individual grinder pump systems.

The Department proposes to s. NR 110.05 to delete the numerous references to correction programs providing compliance by July 1, 1983. This change will not affect the current authorities or implementation of this rule in any way, but will remove outdated rule language.

A new definition of "design flow" is proposed to clarify the basis of various ch. NR 110 design criteria or methods. This revision will not affect the design flow used in the calculation of effluent limits which is established under other separate rules.

NR 114 is the chapter for Certification Requirements for Waterworks, Wastewater Treatment Plant, Septage Servicing and Water System Operations. Proposed changes to this chapter include adding a "Master Operator" category to the Septage Servicing subchapter II. This is a category that the stakeholders have asked for to develop a succession of responsibilities. This

has been an issue for several years and this code change will help satisfy the needs of the stakeholders.

NR 200 is the chapter for Application for Discharge Permits and Water Quality Standards Variances. The proposed change to this rule is a technological update for the submission of permit applications on the web-based application system. The other changes are typographical or to be consistent with federal regulations.

NR 203 is the chapter for WPDES Public Participation Procedures. The proposed change to this code is to make it consistent with federal regulations.

NR 205 is the chapter for General Provisions in WPDES permits. The proposed technology update is to require electronic submission of discharge monitoring reports. Other changes are clarification of unscheduled bypassing of wastewater or to be consistent with federal regulations.

NR 210 is the chapter for Sewage Treatment Works. The minor clarification changes are to reflect date changes or clarification of terms. A modification is proposed to require that emergency operating provisions (such as stand-by generator or pump) be provided for all wastewater pumping stations. The proposed change to s. NR 210.08(2) would require that sewerage system owners maintain emergency operating provisions for lift stations (such as standby pumps or generators). Currently, these emergency provisions are required when lift station are upgraded or constructed new, but the current ch. NR 210 requirement is that only "Main" lift stations must maintain emergency operating provisions

NR 214 is the chapter for Land Treatment of Industrial Liquid Waste By-Product Solids and Sludges. One proposed change is to clarify subsurface systems to be consistent with ch. COMM 83.

NR 299 is the chapter containing the Water Quality Certification requirements. The proposed changes to this chapter are technical changes to reflect s 281.36, a statute that was adopted after the rule went into effect and to provide clarity with respect to the original intent of the rule.

NR 328 is the chapter for Shore Erosion Control Structures in Navigable Waterways. The recommended changes are to provide clarification or typographical changes.

NR 341 is the chapter for Grading on the Bank of Navigable Waterways. The proposed changes to this rule are to provide typographical changes.

NR 812 is the chapter for Well Construction and Pump Installation. The proposed change to this rule is to correct the code reference to ch. NR 110 made in this proposed rule package.

Federal Regulatory Analysis: Some of the revisions are to make our current regulations more consistent with federal regulations under the federal Clean Water Act.

Anticipated Private Sector Costs: No significant fiscal effect on the private sector is anticipated.

Effect on Small Business: The proposed rule changes are not expected to have a significant effect on small business. There are no significant changes to these rules that would affect small businesses.

The proposed change to s. NR 210.08(2) would require that sewerage system owners maintain emergency operating provisions for lift stations (such as standby pumps or generators). Currently, these emergency provisions are required when lift station are upgraded or constructed new, but the current ch. NR 210 requirement is that only "Main" lift stations must maintain emergency operating provisions.

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Place where comments are to be submitted and deadline for submission: Susan Sylvester WT/3; 101 S. Webster Street; P.O. Box 7921; Madison, WI 53707-7921
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Written comments may also be submitted to the Department of Natural Resources using the Wisconsin Administrative Rule Internet Web site at http://adminrules.wisconsin.gov

One Public Hearing will be held on 01/28/10, 11:00am in conference room G09 in GEF II; 101 S. Webster Street, Madison, WI 53707. Comments will be accepted until February 5, 2010.

SECTION 1. NR 102.10 (1) (b) 1. and 2. are amended to read:

NR 102.10 (1) (b) *State wild and scenic rivers*. All state wild and scenic rivers designated under s. 30.26, Stats., including:
1. Pike river and its headwater branches in Marinette county.
2. Pine river and its ~~tributary Popple river~~ headwater branches in Florence and Forest counties.

SECTION 2. NR 102.10 (1) (b) 3. through 5. are created to read:

NR 102.10 (1) (b) 3. Popple River and its headwater branches in Florence and Forest counties.
4. The portion of the Brunsweiler River (Martin Hanson Wild River) from the point in Ashland County at which it leaves T44N R4W S22 QSW QQSW downstream to the point at which it crosses the boundary of the Chequamegon–Nicolet National Forest at T45N R4W S22 QNW.
5. Portions of the Totagatic River in Bayfield, Sawyer, Washburn, Douglas, and Burnett Counties (as described below):

SEG 1: From the outlet of Totogatic Lake located in Bayfield County to the upstream end of Nelson Lake at the southern edge of the walleye spawning refuge located in Sawyer County.

SEG 2: From a point 500 feet below the dam in the Totogatic Wildlife Area located in Washburn County to the upstream end of the Colton Flowage located in Washburn County.

SEG 3: From a point 500 feet below the dam that forms the Colton Flowage located in Washburn County to the point where the river crosses the Washburn–Douglas County line immediately above the upstream end of the Minong Flowage.

SEG 4: From the bridge on CTH "I" that crosses the river located in Washburn County to the confluence of the river with the Namekagon River located in Burnett County.

Note: Section NR 302.02 (1) contains a detailed description of the extent of the Pike, Pine, and Popple river systems designated as Wild Rivers.

SECTION 3. NR 102.10 (1) (d) 10., 17., 22., 29., and 30. are amended to read:

NR 102.10(1)(d)10. Florence county — Brule river including Montagne creek and Riley creek tributaries; tributaries to the Pine–Popple rivers including Chipmunk, Cody, Haley, Haymarsh, ~~LaMontagne~~ Lamon Tangue, Lepage, Lunds, Martin, Olson, Patten, Pine, Riley, Rock, Simpson, Seven Mile, Wakefield and Woods creeks; Little Popple river (T38N R19E S3)

17. Marinette county — Cedarville creek, Otter creek, Holmes creek, East Thunder creek, North fork Thunder river, Eagle creek, Little Eagle creek, Plumadore creek, Meadow brook, Upper Middle Inlet creek, Middle Inlet creek, Wausaukee river, Little Wausaukee creek, Coldwater brook, Medicine brook, South Branch Miscauno ~~river~~ creek, Miscauno ~~river~~ creek, Swede John creek, South Branch Pemebonwon river, Spikehorn creek, Silver creek, Little Silver creek, Sullivan creek; tributaries to the Pike river including Little South Branch Pike river, Camp D creek, Camp F creek, Camp 9 creek, Cole creek, Glen creek, Harvey creek, North Branch Harvey creek, South Branch Harvey creek, Hemlock creek, Holloway creek, K.C. creek, Little Harvey creek, Lost creek, MacIntire creek, Phillips creek, Sackerson creek, Shinns ~~creek~~ branch, Sidney creek, Smeesters creek, Springdale brook, Whiskey creek

22. Portage county — Emmons creek, Radley creek, Sannes creek, Tomorrow river, ~~Trout~~ Nace (Trout) creek

29. Waupaca county — Emmons creek, Griffin creek, Jackson creek, Leers creek, Peterson creek, Radley creek, Sannes creek, Spaulding creek, Trout creek, Whitcomb creek, ~~North Branch~~ Little Wolf river (North Branch Little Wolf river)

30. Waushara county — Chaffee creek, Willow creek north of Redgranite, Mecan river north of Richford, Little Pine creek, West Branch White river

SECTION 4. NR 102.10 (1) (f) 1d., 2p., 6., 8., 10., 20., 22., and 22m. are amended to read:

NR 102.10 (1) (f) 1d.
Ashland

Bad River

SEG 1: Origin to Outfall in Mellen at NW ¼ SW ¼ S6 T44N R2W

Brunsweiler River

SEG 1: Origin to Inlet of Spider Lake

SEG 2: Outlet of Moquah Lake to origin of Wild River designation under s. NR 102.10 (1) (b) 5. at T44N R4W S22 SW ¼ of SW ¼ ~~Inlet of Mineral Lake~~

SEG 3: ~~Outlet of Mineral Lake to Inlet of Beaverdam Lake~~ All portions included as Wild River under s. NR 102.10(1)(b)5

SEG 4: ~~Outlet of Beaverdam Lake (at the dam)~~ End of Wild River segment at the boundary of the Chequamegon−Nicolet National Forest (T45N R4W S22 ¼ NW) to the Bad River Indian Reservation Boundary

2p. Bayfield,
Sawyer,
Washburn,
Douglas
& Burnett

Totagatic River

SEG 1: ~~Origin (Confluence of West Fork Totagatic River and East Fork Totagatic River) to Inlet of Nelson Lake~~ All portions included as Wild River under SEG 1 of par. (b) 5.

SEG 2: ~~Outlet of Totagatic Flowage to Inlet of Colton Flowage~~ All portions included as Wild River under SEG 2 of par. (b) 5., and the 500 feet immediately downstream of the dam in the Totagatic Wildlife Area in Washburn County

SEG 3: ~~Outlet of Colton Flowage to Inlet of Minong Flowage~~ All portions included as Wild River under SEG 3 of par. (b) 5., the 500 feet immediately downstream of the dam that forms the Colton Flowage, and from the end of the Wild River designation at the Douglas/Washburn County line to the inlet of Minong Flowage

SEG 4: ~~Outlet of Minong Flowage to Confluence with Namekagon River~~ All portions included as Wild River under SEG 4 of par. (b) 5.

6.	Forest	Allen Creek	All
		Brule Creek	All
		Elvoy Creek	All
		Jones Creek	Class I & II portions
		~~North~~ Otter Creek (T37N R14E S23, North Otter Creek)	All
8.	Iron, Ashland & Price	Flambeau River	SEG 1: Turtle-Flambeau Flowage (Outlet @ Turtle-Flambeau Dam) to Inlet of Upper Park Falls Flowage
		~~No. Fork Flambeau River~~	~~From Turtle-Flambeau Flowage Dam downstream to Park Falls~~
10.	Langlade	Elton Creek	Class I Portion
		~~Little~~ Evergreen Creek	All
		Mayking Creek	All
		Michelson Creek	All
		Mid Branch Embarrass River	Class I Portion
20.	Sawyer	Benson Creek	All-Class I Portion

		Couderay River	SEG 1: Origin at Outlet of Billy Boy Flowage to Inlet of Grimh Flowage (Including Waters within Lac Courte Oreilles Indian Reservation)
		Eddy Creek	All-Class I Portion
		Grindstone Creek	All-Class I Portion
		Knuteson Creek	SEG 1: Outlet of Wise Lake to Inlet of Knuteson Lake
			SEG 2: Outlet of Knuteson Lake to Inlet of Lake Chetek
		Little Weirgor Creek & Tribs	All-Class I & II Portions
		McDermott ~~Creek~~ Brook	All
		Mosquito Brook	All-Class I Portion
		Teal River	Outlet of Teal Lake to Confluence with West Fork Chippewa River
22.	Vilas	Allequash Creek & Springs	Class I & II Portions
		Brule Creek	All
		East Br. Blackjack Cr.	All
		Elvoy Creek & Springs	Class I & II Portions
		Manitowish River	SEG 1: Adjacent to Dam Road Downstream to Inlet of Boulder Lake

			SEG 2: Outlet of Boulder Lake to Inlet of Island Lake
		Mishonagon Creek	Class I & II Portions
		Siphon Creek	All
		Spring Meadow Creek	Class I Portion
		Tamarack Creek	All
		Trout River	SEG 1: Outlet of Trout Lake to Lac Du Flambeau Indian Reservation Eastern Boundary
22m.	Vilas & Oneida	Wisconsin River	SEG 1: ~~Orgin~~ Origin (Outlet of Lac Vieux Desert) to Inlet of Watersmeet Lake

SECTION 5. NR 102.10 (1m) 2., 3., 4., 5., 6., 9m., 10., 13., 14., 17., 18., and 20. are amended to read:

NR 102.10(1m)

2.	Barron	Bear Lake (T36N R12W S2~~)~~; also in Washburn County)
		Red Cedar Lake (also in Washburn County)
		Sand Lake
		Silver Lake
3.	Bayfield	Bark Bay Slough
		Diamond Lake

Lake Owen

Lake Superior within ¼ mile of the shoreline of the islands within the Apostle Island National Lakeshore

Lower Eau Claire Lake (also in Douglas County)

Middle Eau Claire Lake

Namekagon Lake

~~Owen Lake~~

Pike Chain of Lakes (Pike, Millicent, Buskey Bay, Hart, Twin Bear, Eagle, Flynn and Hildur Lakes)

Star Lake

Upper Eau Claire Lake

4. Burnett ~~Big Mckenzie~~ McKenzie Lake (also in Washburn County)

Big Sand Lake

Middle McKenzie Lake (also in Washburn County)

Sand Lake (T40N R15W S25)

5. Columbia Crystal Lake (T12N R10E S1)

6. Douglas Bardon Lake (Whitefish Lake)

Bond Lake

Lake Nebagamon

		Lower Eau Claire Lake (also in Bayfield County)
		~~Nebagamon Lake~~
		St. Croix (Gordon) Flowage
		Upper St. Croix Lake
		~~Whitefish Lake (Bardon)~~
9m.	Marinette	Caldron Falls Flowage (also in Oconto County)
10.	Oconto	Archibald Lake
		Bass Lake (T32N R15E S9)
		Bear Paw Lake
		Boot Lake
		Caldron Falls Flowage (also in Marinette County)
		Chain Lake
13.	Price	~~Cochram~~ Cochran Lake
		Tucker Lake
14.	Rusk	Bass Lake (T34N R9W S16)
		Fish Lake

Island Chains of Lakes (Chain {also in Chippewa County}, Clear, ~~McMann~~ McCann, and Island Lakes)

Three Lakes No. 1 (T36N R9W S25)

17. Sawyer Barker Lake

Blaisdell Lake

~~Camp Smith Lake~~

Evergreen Lake

Grindstone Lake

Lac Court Oreilles

Lake Chippewa (Chippewa Flowage)

Nelson Lake

Osgood Lake

Perch Lake (T42N R6W S25)

Round Lake (Big Round)

Sand Lake

Smith Lake

Spider Lake

		Teal Lake
		Whitefish Lake
18.	Vilas	Black Oak Lake
		Crab Lake
		Crystal Lake (T41N R7E S27)
		Lac Vieux Desert
		North Twin Lake
		Pallette Lake (Clear)
		Partridge Lake
		Plum Lake
		South Twin Lake
		Star Lake
		Stormy Lake
		Trout Lake
		White Sand Lake ~~(T24N R7E S26)~~ (T42N R7E S26)
20.	Washburn	Bass Lake (T40N R10W S17)
		Bear Lake (also in Barron County)

Long Lake

McKenzie Lake (also in Burnett County)

Middle McKenzie Lake (also in Burnett County)

Red Cedar Lake (also in Barron County)

Shell Lake

Stone Lake (T39N R10W S24)

SECTION 6. NR 102.10 (1m) 4m. is created to read:

NR 102.10 (1m)

4m. Chippewa Chain Lake (also in Rusk County)

SECTION 7. NR 102.11 (1) (b) 1., 5., 12., 15., 16., 23., 27., 33., 34., and 37. are amended to read:

NR 102.11 (1) (b) Other Class I trout waters:

1. Abraham Coulee creek in section 29, township 20 north, range 8 west from its headwaters to the ~~Abraham Coulee road bridge~~ upstream crossing of Oak Ridge Drive in Trempealeau county.

5. Bufton Hollow creek originating in section ~~23~~19, township 12 north, range 2 west in Richland county.

12. Martin creek originating in section ~~22~~ 23, township 6 north, range 2 east in Iowa county.

15. Spring ~~Coulee~~ Valley creek from the headwaters to SE 1/4, SE 1/4, section 33, township 16 north, range 1 east in Monroe county.

16. Unnamed creek 2−12 originating in section 36, township 20 north, range 7 west ~~of~~ in Trempealeau county.

23. Unnamed creek 10−8 originating in section ~~10~~ 3, township 11 north, range 1 west in Richland county.

27. Unnamed creek 13−3a originating in section 19, township 20 north, range 6 west in ~~Trempealeau~~ Jackson county.

33. Unnamed creek 24−3a originating in section ~~24~~ 18, township 11 north, range 1 west in Richland county.

34. Unnamed creek 26−7 originating in section 2, township ~~20~~ 21 north, range ~~6~~ 5 west in Jackson county.

37. Unnamed stream originating in section ~~29~~ 33, township 10 north, range 3 east in Sauk county.

SECTION 8. NR 102.11 (1) (d) 5., 8., 15., 17., 28., 34., 39., and 42. are amended to read:

NR 102.11 (1) (d)

5. Dane & Green	Little Sugar River	Above New Glarus
	Story Creek (Tipperary)	All~~, originating in T5N R8E S36~~
	Sugar ~~Creek~~ River	All
8. Fond du Lac	Feldner's Creek	From ~~headquarters~~ headwaters to Mischo's Millpond
	Auburn Lake Creek (Lake Fifteen Creek)	Entire Creek above & below Auburn Lake ~~Fifteen~~
15. Iron	~~Maintowish~~ Manitowish River	All
17. Jefferson & Rock	Allen Creek	All
28. Rock	Bass Creek	All
	East Fork Raccoon Cr.	All

		Little Turtle Creek	All
		Raccoon Creek	All
		Spring Brook (T2N R14E S27)	All
		Turtle Creek	All
		Unnamed Creek T2N R14E S31	All
34.	St. Croix	Apple River	From NSP plant below CTH I to Mouth
		Cady Creek	All
		Willow River	Extend Class II Portion into Delta in Lake ~~Mallileau~~ Mallilieu
39.	Washington & Fond du Lac	E. Branch Milwaukee R.	From Long Lake outlet to STH 28
42.	Waupaca, Outagamie, & Shawano	Embarrass River	From Wolf River upstream to dam at Pella

SECTION 9. NR 102.11 (1) (d) 26 b. is created to read:

NR 102.11 (1) (d)

26b.	Polk	St.Croix River	From the northern boundary of the St. Croix Falls city limits to a distance one mile below the STH 243 bridge at Osceola

SECTION 10. NR 103.05 (3) is amended to read:

NR 103.05 (3) These procedures are promulgated under ss. 281.11, 281.12 (1), 281.15, 281.36, 281.37, and 283.001, Stats.

SECTION 11: NR 103.08 (1k) (e) is amended to read:

NR 103.08 (1k) (e) For all activities that meet the criteria listed in sub. (4) (c) 3. and that do not require authorization under ch. 30, Stats., the department shall make a ~~final~~ decision on an application within 60 working days of receipt of a complete application from the project proponent.

SECTION 12. NR 103.08 (1m) (note) is amended to read:

NR 103.08 (1m) **Note:** This guide is based upon the "Corps of Engineers Wetlands Delineation Manual, 1987" ~~which has been regionalized for Wisconsin~~. and Final Regional Supplements. Copies of "Basic Guide to Wisconsin's Wetlands and Their Boundaries" may be obtained from Wisconsin Department of Administration, Document Sales Unit, 202 S. Thornton Ave., P.O. Box 7840, Madison, WI 53707−7840.

SECTION 13. NR 105.06 (5) (h) is amended to read:

NR 105.06 (5) (h) Chronic toxicity criteria for the fish and aquatic life subcategories listed in s. NR 102.04 (3) that are calculated using acute−chronic ratios are listed in Table 5 for substances with acute toxicity unrelated to water quality parameters and in Table 6 for substances with acute toxicity related to water quality parameters. Equations listed in Table 6 are applicable over the ~~same~~ range of water quality parameters as contained in Table ~~2A~~4A. Table 2A should be used where no range is listed in Table 4A.

SECTION 14. NR 105.06 (8) (a) is amended to read:

NR 105.06 (8) (a) The conversion of the water quality criterion expressed as total recoverable ($WQC_{Total\ R.}$) to the water quality criterion expressed as dissolved (WQC_D) shall be performed as follows:

$WQC_D = (CF)(WQC_{Total\ R.})$

Where: $WQC_{Total\ R.}$ = Criteria from NR 105, Table 5 or 6.

CF = Conversion factor for total recoverable to dissolved.

Conversion factors are as follows:

Arsenic 1.000
Cadmium 0.850
Chromium (III) 0.860
Chromium (VI) 0.962
Copper 0.960
Lead 0.792
Mercury 0.85
Nickel 0.997
Selenium 0.922
Zinc 0.986

SECTION 15. NR 105.06 Table 4B is amended to read:

NR 105.06 **Table 4B**

Chronic Toxicity Criteria for Ammonia with Toxicity Related to Water Quality (all in mg/L)

Substance: Ammonia (as N)
Water Quality Parameters: Temperature in degrees Celsius, pH

30−Day CTC:

$$CTC = E \times ((0.0676/(1 + 10^{(7.688 - pH)})) + (2.912/(1 + 10^{(pH - 7.688)}))) \times C$$

4−Day CTC = 30−Day CTC X 2.5

Cold Water (all periods), Warm Water Sport Fish and Warm Water Forage Fish (periods with Early Life Stages Present):

$C = \text{minimum of } (2.85) \text{ or } (1.45 \times 10^{(0.028 \times (25 - T))})$
T = Temperature in degrees Celsius
E = 0.854

Warm Water Sport Fish and Warm Water Forage Fish (periods with Early Life Stages Absent):

$C = (1.45 \times 10^{(0.028 \times (25 - T))})$
T = Maximum of (actual temperature in degrees Celsius) and (7)
E = 0.854

Limited Forage Fish (periods with Early Life Stages Present):

$C = \text{minimum of } (3.09) \text{ or } (3.73 \times 10^{(0.028 \times (25 - T))})$
T = temperature in degrees Celsius
E = 1

Limited Forage Fish (periods with Early Life Stages Absent):

$C = (3.73 \times 10^{(0.028 \times (25 - T))})$

T = Maximum of (actual temperature in degrees Celsius) and (7)
E = 1

Limited Aquatic Life (all periods):
C = $(8.09 \text{ X } 10^{(0.028 \text{ X } (25 - T))})$
T = ~~temperature in degrees Celsius~~ Maximum of (actual temperature in degrees Celsius) and (7)
E = 1
30−day CTC in mg/L @ pH of:

	30-day CTC in mg/L @ pH of:		
	7.5	8.0	8.5
Cold Water, Warm Water Sport Fish (Early Life ~~States~~ Stages Present), and Warm Water Forage Fish (Early Life Stages Present):			
@ 25 degrees Celsius	2.22	1.24	0.55
@ 14.5 degrees Celsius or less	4.36	2.43	1.09
Warm Water Sport Fish (Early Life Stages ~~Present~~ Absent, and Warm Water Forage Fish (Early Life Stages Absent):			
@ 25 degrees Celsius	2.22	1.24	0.55
@ 7 degrees Celsius or less	7.09	3.95	1.77
Limited Forage Fish (Early Life Stages Present):			
@ 27 degrees Celsius or less	5.54	3.09	1.38
Limited Forage Fish (Early Life Stages Absent):			
@ 25 degrees Celsius	6.69	3.73	1.67
@ 7 degrees Celsius or less	21.34	11.90	5.33
Limited Aquatic Life:			
@ 25 degrees Celsius	14.50	8.09	3.62
@ 7 degrees Celsius or less	46.29	25.82	11.56

Note: The terms "early life stage present" and "early life stage absent" are defined in subch. III of ch. NR 106.

SECTION 16. NR 105.06 Table 5 and (note) are amended to read:

NR 105.06

Table 5
Chronic Toxicity Criteria Using Acute−Chronic Ratios for Substances with Toxicity Unrelated to Water Quality (all in ug/L)

Substance	Cold Water	Warm Water Sportfish and Warm Water Forage	Limited Forage Fish and Limited Aquatic Life
Arsenic (+3)*	148	152.2	152.2
Chromium (+6)*	10.98	10.98	10.98
Mercury (+2)*	0.44	0.44	0.44
Cyanide, free	5.22	11.47	11.47
Chloride	395,000	395,000	395,000
Selenium	5.0	5.0	46.5
Chlorine[1] *	7.28	7.28	7.28
Dieldrin	0.055	0.077	0.077
Endrin	0.036	0.050	0.050
Parathion	0.011	0.011	0.011

Note: [1] *Criterion listed is applicable to the "total recoverable" form except for chlorine which is applicable to the "total residual" form.

SECTION 17. NR 105.08 (4) Table 8 2., 5., and 33. are amended to read:

NR 105.08 (4) **Table 8**

Human Threshold Criteria
(ug/L unless specified otherwise)

	Public Water Supply		**Non-Public Water Supply**		
Substance	Warm Water Sport Fish Communities	Cold Water[4] Communities	Warm Water Forage, Limited Forage, and Warm Water Sport	Cold Water Communities	Limited Aquatic Life

				Fish Communities		
2.	Antimony[2]	5.6	5.6	373	373	1,120
5.	Cadmium[2]	4.4	4.4	370	370	880
33.	*gamma−BHC (lindane)[2]	0.20	0.20	0.84	0.25	1,900

SECTION 18. NR 105.08 (4) Table 8 43. is repealed.

SECTION 19. NR 105.09 (3) Table 9 36., and 38., are amended to read:

NR 105.09 (3) **Table 9**

Human Threshold Criteria
(ug/L unless specified otherwise)

		Public Water Supply		Non-Public Water Supply		
	Substance	Warm Water Sport Fish Communities	Cold Water Communities	Warm Water Forage, Limited Forage, and Warm Water Sport Fish Communities	Cold Water Communities	Limited Aquatic Life
36.	Tetrachloroethene[2]	~~5.8~~ 5.0	4.6	46	15	1300
38.	1,1,2— Trichloroethane[2]	~~6.0~~ 5.0	~~6.0~~ 5.0	195	87	1200

SECTION 20. NR 106.03 (6) is repealed and recreated to read:

NR 106.03 **(6)** "IWC" or "Instream waste concentration" means an estimate of the proportion of effluent to total volume of water (receiving water + effluent). The IWC is calculated according to the following equation:

$$\text{IWC (as \%)} = 100 \times \frac{Q_e}{(1 - f)\ Q_e + Q_s}$$

where:
Q_e = effluent flow
f = fraction of the Q_e withdrawn from the receiving water
Q_s = receiving water flow (in most cases ¼ of a low flow value, such as the $Q_{7,10}$, is used in order to allow a free zone of passage for aquatic organisms).

SECTION 21. NR 106.05 (5) (a) is amended to read:

NR 106.05 (5) (a) When available daily discharge concentrations of the substance

are not serially correlated and at least 11 concentrations are greater than the limit of detection, the upper 99th percentile of the daily average, the 4−day average and the 30−day average discharge concentrations may be calculated as follows:

$P_{99} = \exp(mu_{dn} + Z_p sigma_{dn})$

Where:

P_{99} = Upper 99th percentile of n−day average discharge concentrations.

d = Ratio of the number of daily discharge concentrations less than the limit of detection to the total number of discharge concentrations.

n = Number of discharge concentrations used to calculate an average over a specified monitoring period (n=1 for daily concentrations, 4 for 4−day averages and 30 for 30−day averages).

exp = Base e (or approximately 2.718) raised to the power shown between the parentheses in the original equation.

Z_p = Z value corresponding to the upper pth percentile of the standard normal distribution.

P = $(0.99-d^n)/(1-d^n)$.

mu_{dn} = $mu_d+[(sigma_d)^2-(sigma_{dn})^2]/2+\ln[(1-d)/(1-d^n)]$ = estimated log mean of n−day average discharge concentrations greater than the limit of detection. (Note: $mu_{dn} = mu_d$ if n = 1).

$(sigma_{dn})^2$ = $1n\,[(1-d^n)\,([1+(s/m)^2]/[n(1-d)]+(n-1)/n)]$ = estimated log variance of n−day average discharge concentrations greater than the limit of detection. (Note:$(sigma_{dn})^2 = (sigma_d)^2$ if n = 1.)

mu_d = $1n\,m - 0.5\,(sigma_d)^2$ = estimated log mean of discharge concentrations greater than the limit of detection.

$(sigma_d)^2$ = $1n\,[1 + (s/m)^2]$ = estimated log from variance of discharge concentrations greater than the limit of detection.

1n = Natural logarithm.

m = Mean discharge concentrations greater than the limit of detection.

s = Standard deviation of discharge concentrations greater than the limit of detection.

SECTION 22. NR 106.06 (4) (e) (title) is amended to read:

NR 106.06 (4) (e) *Background concentrations of ~~toxicant~~ toxic or organoleptic substances (Cs).* The representative background concentration of a toxic or organoleptic substance shall be used in deriving chemical specific water quality based effluent limitations. Except as provided elsewhere in this paragraph, the representative background concentration shall equal the geometric mean of the acceptable available data for a substance. Background concentrations may not be measured at a location within the direct influence of a point source discharge.

SECTION 23. NR 106.07 (2) (intro), (a), and (b) are amended to read:

NR106.07 (2) A chemical specific water quality based effluent limitation that is established according to this chapter shall be expressed in the permit as both a concentration limitation (in units of mg/L or equivalent units) and a mass limitation (in units of kg/day or equivalent units). Water quality based mass limits for discharges of chlorine are not required in permits.

(a) For dischargers subject to ch. NR 210, an acute toxicity based concentration limitation that is derived by the procedure in s. NR 106.06 shall be converted to a mass limitation by using the discharger's maximum effluent flow, expressed as a daily ~~average~~ total, that is anticipated to occur for 24 continuous hours during the design life of the treatment facility.

(b) For all other dischargers not subject to ch. NR 210, an acute toxicity based concentration limitation that is derived by the procedures in s. NR 106.06 shall be converted to a mass limitation by using the discharger's maximum effluent flow, expressed as a daily ~~average~~ total, that has occurred for 24 continuous hours and represents normal operations. When calculating a mass limitation, the department may consider a projected increase in effluent flow that will occur when production is increased or modified, or another wastewater source, including stormwater, is added to an existing wastewater treatment facility. This paragraph does not waive the requirements of ch. NR 207.

SECTION 24. NR 106.08 (5) (a) is amended to read:

NR 106.08 (5) REASONABLE POTENTIAL TO RECEIVE AN ACUTE OR CHRONIC WHOLE EFFLUENT TOXICITY LIMIT. (a) *General.* Whole effluent toxicity limits are established in a permit according to s. NR 106.09 whenever representative, facility−specific whole effluent toxicity data demonstrate that the effluent is or may be discharged at a level that will cause, have the potential to cause, or contribute to an excursion of a water quality standard. In evaluating the potential of a water quality standard to be exceeded, a reasonable potential factor (RPF) shall be calculated for a discharger with 5 or more representative toxicity tests according to par. (b). Whole effluent toxicity limits shall be imposed in a WPDES permit whenever the RPF calculated according to par. (b) exceeds 0.30. Whole effluent toxicity limits may be imposed, on a case−by−case basis, whenever facility−specific whole effluent toxicity test data indicate toxicity to aquatic life as determined in s. NR 106.09. Whole effluent toxicity limits may also be imposed in the absence of facility−specific whole effluent toxicity test data, on a case−by−case basis, whenever facility−specific or site−specific data or conditions indicate toxicity to aquatic life that is attributable to the discharger.

SECTION 25. NR 106.115 (1) is amended to read:

NR 106.115 (1) For the chlorinated dibenzo−p−dioxins (CDDs) listed in Tables ~~7,~~ 8 and 9 in ch. NR 105, the potential adverse additive effects of all dioxin (CDD) and chlorinated dibenzofuran (CDF) congeners in effluents shall be accounted for as specified in this section.

SECTION 26. NR 106.88 (3) is amended to read:

NR 106.88 (3) Interim limitations, target values and target limitations established according to this subchapter shall be expressed in the permit as a concentration limitation, in units of mg/L or equivalent units~~. Pursuant to s. NR 106.07 (2), calculated limitations established in accordance with this subchapter shall be expressed in the permit both as a concentration limitation, in units of mg/L or equivalent units,~~ and as a mass limitation, in units of ~~Kg/d~~ lbs/d or equivalent units.

SECTION 27. NR 108.04 (2) Note is amended to read:

NR 108.04 (2) **Note:** The necessary accompanying design data for sewerage systems and waterworks can be found in ss. ~~NR 110.06 to 110.11~~ ch. NR 110 and s. NR 811.11, respectively.

SECTION 28. NR 108.04 (2) (b) is amended to read:

NR 108.04 (2) (b**)** Three sets of final plans and specifications shall be submitted for all reviewable projects except water main and sanitary sewer extensions in which case only ~~1 set needs~~ 2 sets need to be submitted. One of the plan sets shall be submitted electronically and the remainder as paper unless the department determines an alternate submittal is acceptable for its review and records retention purposes. Additional sets of plans and specifications may be required for sewerage improvements that are eligible for state or federal grants–in–aid.

SECTION 29. NR 108.06 (5) is amended to read:

NR 108.04 **(5)** POST START OF CONSTRUCTION SUBMITTALS. The department shall not approve plans and specifications ~~which are submitted after~~ for any project for which construction has commenced. The department may review the plans and specifications and require changes to components which may adversely affect public health, the operation of the proposed or existing facility and the determination of permit compliance. This review does not prohibit the department from taking enforcement action under s. NR 108.03.

SECTION 30. NR 110.03 (3) is amended to read:

NR 110.03 **(3)** "ASCE" means the American ~~society of civil engineers.~~ Society of Civil Engineers. Copies of ASCE publications referenced in this chapter are available for inspection at the offices of the department of natural resources, the secretary of state's office and the legislative reference bureau. ASCE publications may be obtained from the American Society of Civil Engineers, 345 East 47th Street, New York, N.Y. 10017.

SECTION 31. NR 110.03 (5) is repealed.

SECTION 32. NR 110.03 (9) is amended to read:

NR 110.03 **(9)** "Controlled diversion" means the ~~discharge~~ re-routing of untreated or partially treated wastewater around the entire sewage treatment facility, or treatment processes therein, which is recombined with the treated effluent prior to the effluent sampling location.

SECTION 33. NR 110.03 (12g) is created to read:

NR 110.03 **(12g)** "Design flow" means the anticipated wastewater discharge rate to a sewerage system component, which is used to design the sewerage system component to provide compliance with WPDES permit limits and other performance objectives, during the most critical operating conditions anticipated within the design planning period. Specific design flow terms used in this chapter, include the following:

(a). "Average daily base flow" means the average of the daily flow volumes anticipated to occur for a continuous 12-month period, less infiltration and inflow, and expressed as a daily average.

(b). "Average design flow" means the average of the daily flow volumes anticipated to occur for a continuous 12-month period, expressed as a daily average.

(c). "Maximum month design flow" means the largest volume of flow anticipated to occur during a continuous 30-day period, expressed as a daily average.

(d). "Maximum week design flow" means the largest volume of flow anticipated to occur during a continuous 7-day period, expressed as a daily average.

(e). "Maximum day design flow" means the largest volume of flow anticipated to occur during a one-day period, expressed as a daily average.

(f). "Maximum hour design flow" means the largest volume of flow anticipated to occur during a one-hour period, expressed as a daily or hourly average.

(g). "Peak instantaneous design flow" means the maximum anticipated instantaneous flow.

(h). "Peak design flow" and "maximum design flow" mean the largest volume of flow anticipated to occur on an infrequent basis, expressed as a daily average. The "peak design flow" or "maximum design flow" may be equal to any one of the design flows defined in pars. (c) to (g).

SECTION 34. NR 110.03 (20) is repealed.

SECTION 35. NR 110.03 (22) is amended to read:

NR 110.03 **(22)** "NEC" means the ~~1981~~ NFPA 70 National Electrical Code. Copies of the National Electrical Code are available for inspection at the offices of the department of natural resources, the secretary of state's office, and the legislative reference bureau. Copies may be obtained for personal use from the National Fire Protection Association, ~~470 Atlantic Avenue, Boston, Mass. 02210.~~ 1 Batterymarch Park, Quincy, Mass. 02169-7471.

SECTION 36. NR 110.03 (24) is repealed.

SECTION 37. NR 110.05 (2) (c) is amended to read:

NR 110.05 (2) (c) "Category 2 bypasses and overflows" means those bypasses and overflows occurring under abnormal circumstances. They may include an inadvertent bypass or overflow resulting from unanticipated equipment damage or failure, or temporary power interruption; a bypass or overflow necessary to prevent loss of life or severe property damage; or a bypass or overflow of excessive storm drainage or runoff resulting from a precipitation event having a probable recurrence frequency of once in 5 years or ~~less~~ lesser recurrence frequency. For the purposes of determining sewer extension eligibility in the case of combined sewer systems, the bypass or overflow frequency necessary to achieve compliance with the applicable requirements derived from an applicable state court−approved stipulation, order or judgment shall be used in lieu of the 5−year storm frequency when that frequency is less stringent than the 5−year storm frequency; and in all other cases the 5−year storm frequency is used. If there is no state court−approved stipulation, order or judgment applicable to a combined sewer system, then the bypass or overflow frequency necessary to achieve compliance with all applicable requirements of ch. 283, Stats., shall be used in lieu of the 5−year storm frequency when that frequency is less stringent than the 5−year storm frequency; and in all other cases, the 5−year storm frequency is used. When using the 5−year storm to define category 2 bypasses and overflows, other factors besides storm frequency shall be ~~taken into account~~ considered, including local storm patterns, snow melt and snow cover, soil types and soil conditions, and frost depth.

SECTION 38. NR 110.05 (4) is repealed and recreated to read:

NR 110.05 **(4)** DENIAL OF SEWER EXTENSION APPLICATIONS. (a) Applications for sanitary sewer extensions shall be denied if the sewer will be tributary to:

1. A sewage treatment plant which discharges an effluent not in compliance with the monthly average effluent limitations for biochemical oxygen demand (BOD) and total suspended solids contained in ch. NR 210 or 214, or with any more stringent water quality related effluent limitations required to achieve applicable water quality standards derived from chs. NR 102 to 104 or from any federal water quality standard promulgated pursuant to 33 USC 1313 for any waters of the state.

2. A sewerage system in which any category 1 bypasses or overflows occur.

(b) In the event that the WPDES permit for a sewage treatment plant currently discharging an effluent in accordance with ch. NR 210, establishes a compliance schedule for achievement of any more stringent water quality related effluent limitations applicable to such treatment plant, compliance with the schedule of compliance in the discharge permit shall be deemed to be compliance with the applicable water quality related effluent limitations.

SECTION 39. NR 110.05 (5) (c) is amended to read:

NR 110.05 (5) (c) That the sewers to be installed will result in the elimination of existing category 1 bypasses or overflows ~~which occur during dry weather flow conditions~~ or will result in the abandonment of an existing inadequate sewage treatment plant;

SECTION 40. NR 110.05 (5) (g) is repealed.

SECTION 41. NR 110.05 (6) is amended to read:

NR 110.05 **(6)** CONNECTIONS RESTRICTIONS. As a condition of any approval granted under sub. ~~(4) or~~ (5), the department may require ~~than~~ that an applicant for a sewer extension restrict the number of connections made to the sewer system in accordance with a prescribed schedule.

SECTION 42. NR 110.08 (3) (a) is amended to read:

NR 110.08 **(3)** WISCONSIN ENVIRONMENTAL POLICY ACT REVIEW. ~~(a)~~ Facilities plans~~, other than those excluded in s. 150.03 (2) (d) 17., (1978),~~ shall be ~~screened~~ reviewed by the department ~~to determine whether it is required to prepare an environmental impact statement in accordance with ch. NR 150, (1978)~~ in accordance with ch. NR 150.

SECTION 43. NR 110.08 (3) (b) is repealed.

SECTION 44. NR 110.09 (2) (j) 2. is amended to read:

NR 110.09 (2) (j) 2. Wastewater flow estimates. In determining total average ~~daily~~ flow for the design of sewerage systems, the flows to be considered include the average daily base flows (ADBF) expected from each of the following: residential sources, commercial sources, institutional sources, and industries the system will serve plus allowances for future industries and nonexcessive infiltration~~/~~ or inflow.

SECTION 45. NR 110.09 (2) (j) 3. b. is amended to read:

NR 110.09 (2) (j) 3. b. While many uncertainties accompany forecasting future industrial flows, there is still a need to allow for some unforeseeable future industrial growth. Thus, design capacity of the treatment works may include (in addition to the existing industrial flows and future documented industrial flows) a nominal flow allowance for future nonidentifiable industries or for unplanned industrial expansions, provided that areawide waste treatment management plans, land−use plans and zoning provide for ~~such~~ the industrial growth. This additional allowance for future unplanned industrial flow ~~shall~~ may not normally exceed 5%, ~~(~~or 10% for towns with less than 10,000 population~~),~~ of the total average design flow of the treatment works exclusive of the allowance or 25% of the total industrial flow, ~~(~~existing plus documented future~~)~~, whichever is greater.

SECTION 46. NR 110.09 (2) (j) 4. b. is amended to read:

NR 110.09 (2) (j) 4. b. The staging period ~~shall~~ may not exceed the period which is appropriate according to the following table.

Staging Periods for Treatment Facilities

Flow Growth Factors (20 yrs)	Maximum Initial Staging Period
1. ~~Design~~ Average design flow less than 1.3 times initial average flow	20 years
2. ~~Design~~ Average design flow 1.3 to 1.8 times initial average flow	15 years
3. ~~Design~~ Average design flow greater than 1.8 times initial average flow.	10 years

SECTION 47. NR 110.09 (8) (b) 2. is amended to read:

NR 110.09 (8) (b) 2. The following site−specific groundwater information ~~shall~~ may be required as part of the facilities plan for land disposal facilities:

SECTION 48. NR 110.09 (8) (c) 3. (Note) is repealed.

SECTION 49. NR 110.13 (1) (d) 1. and 2. are amended to read:

NR 110.13 (1) (d) *Protection of water supplies*. 1. Sanitary sewers ~~which~~ shall be ~~laid less than~~ located with a minimum separation distance of 60 meters (200 feet) from ~~a~~ any community public water supply well ~~shall be approved on a case−by−case basis.~~ in accordance with s. NR 811.16(4)(d). A lesser separation distance may be allowed where the sanitary sewer main is constructed of water main materials and joints and pressure tested in accordance with ch. NR 811 requirements. When sanitary sewers are proposed to be laid within 60 meters (200 feet) of a public water supply well the location of the well shall be shown on the design plans. The separation distance between a public water supply well and a sanitary sewer main may not be less than 50 feet.

2. Sanitary sewers shall be ~~isolated~~ located with a minimum separation distance of 15 meters (50 feet) from private water supply wells in conformance with s. NR 812.08. When sanitary sewers are proposed to be laid within 15 meters (50 feet) of a private water supply well the location of the well shall be shown on the design plans.

SECTION 50. NR 110.13 (2) (i) is amended to read:

NR 110.13 (2) (i) *Bedding*. 1. Bedding classes A, B, or C, as described in ASTM C12 ~~(1981) or WPCF Manual of Practice (MOP) No. 9 (ASCE MOP No. 37) (1976)~~ shall be used for all rigid pipe provided the proper strength pipe is used with the specified bedding to support the anticipated load.

2. Bedding classes I, II, or III, as described in ASTM D2321 ~~(1980)~~ shall be used for all flexible pipe provided the proper strength pipe is used with the specified bedding to support the anticipated load.

SECTION 51. NR 110.13 (2) (k) 1. is amended to read:

NR 110.13 (2) (k) *Construction quality testing*. 1. Groundwater infiltration into sanitary sewer systems shall be minimized. Tests for infiltration shall be specified in the construction specifications. This may include appropriate water or low pressure air testing. The leakage outward or inward (exfiltration or infiltration) may not exceed 0.19 cubic meters per centimeter pipe diameter per kilometer per day (200 gallons per inch of pipe diameter per mile per day) for any section of the system. An exfiltration or infiltration test shall be performed with a minimum positive head of 60 centimeters (2 feet). The air test, if used, shall, at a minimum, conform to the test procedure described in ASTM C828 ~~(1980), entitled "Tentative Recommended Practice for Low-Pressure Air Test of Vitrified Clay Pipe Lines"~~. for clay pipe, ASTM C924 for concrete pipe, or ASTM F147 for plastic pipe. The testing methods selected should take into consideration the range in groundwater elevations projected and the situation during the test.

SECTION 52. NR 110.13 (5) (a) is amended to read:

NR 110.13. (5) (a) *Materials.* Materials used in the construction of sanitary sewers shall have been manufactured in conformity with the latest applicable standards issued by ASTM or AWWA and shall be approved by the department. The materials shall be restricted to the following: asbestos cement, cast iron, concrete, vitrified clay, steel, ductile iron, polyvinyl chloride (PVC), acrylonitrile–butadiene–styrene (ABS) composite, ~~and~~ fiberglass reinforced–PVC composite and high density polyethylene (HDPE) pipe. Other pipe material will be considered on its merit and may be approved by the department. Where an approval is issued for a restricted or experimental use, the department may require a construction inspection report and annual reports including television inspection of the system as a condition of its approval.

SECTION 53. NR 110.13 (5) (e) through (h) are amended to read:

NR 110.13 (5) (e) *Nonpressure pipe.* All nonpressure sewer pipe shall have sufficient strength to withstand the loads which will exist. The following are minimum standards for nonpressure pipe:

1. Asbestos cement pipe and fittings shall meet the requirements of ASTM ~~C428 (1981)~~ C428-05 (2006);

2. Cast iron pipe and fittings shall be of the commercial grade known as "extra heavy" and shall meet the requirements of AWWA ~~C100 (1977)~~ A746-09;

3. Concrete pipe shall meet the requirements of ASTM ~~C14 (1981)~~ C14-07 , ~~C76 (1982)~~ C76-08a , or ~~C655 (1981)~~ C655-09;

4. Vitrified clay pipe shall meet the requirements of ASTM ~~C700 (1978)~~ C700-07a ;

5. Steel pipe shall meet the requirements of AWWA ~~C200 (1980)~~ C200-05 ;

6. Ductile iron pipe and fittings shall meet the requirements of ASTM ~~A746 (1977) or AWWA C100 (1977)~~ A746-09;

7. Polyvinyl chloride sewer pipe shall meet the requirements of ASTM ~~D3033 (1980), D3034 (1981, or ASTM F679 (1980)~~ D3034-08 , or ASTM F679-08;

8. ABS composite sewer pipe shall meet the requirements of ASTM ~~D2680 (1980)~~ D2680-01(2009).

(f) *Joints for nonpressure pipe.* The method of making joints and the materials used shall be included in the specifications. Sewer joints shall be designed to minimize infiltration and to prevent the entrance of roots. Joint material shall be of such a composition as not to be adversely affected by the sewage.

1. Asbestos cement pipe joints shall consist of an asbestos cement sleeve and 2 neoprene or rubber type gaskets.

2. Cast iron pipe joints shall consist of rubber gasket joints or mechanical joints ~~meeting the requirements of AWWA C100 (1977)~~.

3. Rubber gasket joints for concrete sewer pipe shall meet ASTM ~~C443 (1979)~~ C443-05a.

4. Resilient joints for vitrified clay sewer pipe shall meet ASTM ~~C425 (1977)~~ C425-04.

5. Steel pipe joints shall meet the requirements of AWWA ~~C200 (1980)~~ C200-05.

6. Ductile iron pipe joints shall ~~meet the requirements of AWWA C100 (1977)~~ consist of rubber gasket joints or mechanical joints.

7. Polyvinyl chloride sewer pipe shall be joined by solvent weld joints or by elastomeric joints which have been approved by the department.

8. ABS composite sewer pipe shall be joined by solvent weld joints or by type OR mechanical–seal joints meeting the requirements of ASTM ~~D2680 (1980)~~ D2680-01 (2009).

(g) *Pressure sewer pipe and joints.* All pressure sewer pipe 10 centimeters (4 inches) or larger shall meet the following minimum requirements:

1. Asbestos cement pipe and joints shall meet the requirements of AWWA ~~C400 (1980)~~ C400-03 (1980).

2. Cast iron pipe and joints shall meet the requirements of AWWA ~~C100 (1977)~~ C151.

3. Ductile iron pipe and joints shall meet the requirements of AWWA ~~C100 (1977)~~ C151.

4. Steel pipe and joints shall meet the requirements of AWWA ~~C200 (1980)~~ C200-05.

5. Concrete pipe and joints shall meet the requirements of AWWA ~~C300 (1974)~~ C300-04.

6. Polyvinyl chloride pipe and joints shall meet the requirements of AWWA ~~C900 (1981)~~ C900-07 (minimum class 150) or ASTM ~~D2241~~ D2241-05 ~~(1980)~~ (minimum class 250). Solvent weld joints may not be used.

7. Fiberglass reinforced–polyvinyl chloride composite pipe and joints shall meet the requirements of AWWA ~~C950 (1981)~~ C950-07 (minimum class 250). Eight and 10–inch pipe shall have minimum category 3 stiffness as defined in ASTM ~~D2996~~ D2996-01 (2007). Four and 6–inch pipe shall have a minimum category 2 stiffness as defined in ASTM ~~D2996 (1977)~~ D2996-01 (2007).

(h) *Small diameter pressure sewer pipe and joints.* All pipe and joints 8 centimeters (3 inches) in diameter or smaller to be used in grinder pumps shall meet the following minimum requirements:

1. Polyethylene pipe and joints which meet the requirements of ASTM ~~D2239 (1974)~~ D2239-03 (minimum class 160) may be approved on a case–by–case basis depending on the expected system pressure relative to the pipe working strength. Solvent weld, butt fusion, or elastomeric joints will be acceptable.

2. For ABS pipe ~~and joints shall meet the requirements of ASTM D2282 (1977) (minimum class 160).~~, solvent weld or elastomeric joints will be acceptable.

3. Polyvinyl chloride pipe and joints shall meet the requirements of ASTM ~~D2241 (1980)~~ D2241-05 (minimum class 160). Solvent weld or elastomeric joints will be acceptable.

SECTION 54. NR 110.14 (1) (b) is amended to read:

NR 110.14 (1) (b) *Design report*. A design report shall be submitted with plans and specifications for all new sewage lift stations as well as the major rehabilitation of existing lift stations. Major lift station rehabilitation may include, but is not limited to, replacing pumps with larger units or changing the type of lift stations. The design report shall comply with the facilities planning requirements of s. NR 110.11, ~~as well as detailing the~~ and shall contain the detailed design calculations ~~of~~ for the lift station design capacity.

SECTION 55. NR 110.14 (2) (a) 3. is repealed and recreated to read:

NR 110.14 (2) (a) 3. Lift stations shall be located with a minimum separation distance of 60 meters (200 feet) from a community water supply well, and a minimum separation distance of 30 meters (100 feet) from a private water supply well. A lesser separation distance from a community water supply well may be approved if hydrogeologic information is provided to the department to indicate the lesser separation distance would provide adequate protection of a well from contamination. When a lift station is proposed within 60 meters (200 feet) of a community water supply well, or 30 meters (100 feet) of a private water supply well, the location of the well shall be shown on the engineering plans. Gravity or pressure sewers connecting to lift stations shall be separated from public and private water supply wells in accordance with s. NR 110.13 (1)(d).

SECTION 56. NR 110.14 (2) (b) 3. is amended to read:

NR 110.14. (2) (b) 3. Where possible, the pumping rate shall be designed to approximate the peak hour influent design flow rate to the lift station. For main ~~pumping~~ lift stations ~~pump~~ or lift stations associated with treatment facilities, or in cases where large fluctuations of flow are known to occur, the use of variable speed pumps, or multiple constant speed pumps may be required by the department.

SECTION 57. NR 110.14 (3) through (5) are repealed and recreated to:

NR 110.14 (3) GENERAL DESIGN REQUIREMENTS. (a) *Type*. Sewage lift stations in general use fall into 7 types: wet well or dry well, submersible, suction lift, screw pump, pneumatic ejector, grinder pump and septic tank effluent pump.

(b) *Structural features*. 1. Dry wells, including their superstructure, shall be completely separated from wet wells. Common walls shall be gas tight.

2. Provisions shall be made in all types of lift stations to facilitate removal of pumps, motors, and other mechanical and electrical equipment without entry into the wet well.

3. Permanent ladders or steps may not be provided in the wet wells with the possible exception of built-in place lift stations, in which stairways in the wet wells may be approved on a case-by-case basis. A safe means of access shall be provided to dry wells containing equipment requiring inspection or maintenance according to the following criteria:

a. For factory built lift stations, if a dry well is over 6 meters (20 feet) deep, an offset shall be made in the entrance ladder with an intermediate landing at approximately mid-depth.

b. For built-in-place lift stations, if a stairway with a depth exceeding 12 feet is used, an intermediate landing shall be provided at vertical intervals not to exceed 3.7 meters (12 feet).

c. Where an intermediate landing is used, the diameter of the landing area shall be at least 1.5 meters (5 feet), or an equivalent landing area shall be provided. Landings shall be provided with a suitable barrier to prevent an individual from falling past the intermediate landing to the lower level.

d. A man lift or elevator may be used in lieu of landing requirements, provided an emergency access is included in the design.

4. A caution sign shall be installed at top of entrances to wet wells. The caution sign shall be yellow and black, and shall have a minimum size of 23 cm (10 inches) by 35 cm (14 inches). The letter size shall be at least one-inch. The sign shall read:

a. Caution – dangerous/hazardous gases.

b. Level 2 confined space.

c. Do not enter without proper equipment and supervision.

5. A sump pump shall be provided in a dry well to remove leakage or drainage. The sump pump discharge line shall be equipped with a check valve, and shall discharge above the maximum high water level of the wet well. A siphon break shall be provided when the sump pump discharge line enters at the high water level in the wet well. Pump seal water leakage shall be piped or channeled directly to the sump pit.

6. All floors and walkways shall be sloped to a point of drainage.

7. All wet wells shall be designed based on fill time and minimum pump cycle time. With any combination of influent flows and pumping rate, the minimum pump cycle time shall be greater than or equal to 5 minutes, except for variable speed lift stations. The total fill time between pump on and off elevations in the wet well, at average design flow, may not exceed 30 minutes to prevent septicity.

8. The wet well floor shall have a minimum slope of one to one to the hopper bottom. The horizontal area of the hopper bottom may not be greater than necessary for proper installation and function of suction pipe intake or pump inlet.

9. There may not be a connection between any potable water supply and sewage lift station which could potentially cause contamination of the potable supply.

10. Exteriors of steel factory built lift stations shall be provided with a suitable water proof epoxy coating or water proof painting system or protected using other appropriate methods. Cathodic protection shall be provided using galvanic anodes or impressed current anodes, to prevent corrosion of steel basins.

11. Interior of steel wet wells shall be blasted using appropriate methods and coated with a suitable water proof epoxy coating or water proof painting system or other appropriate methods to protect against corrosion.

Note: The department recommends that the steel wet wells should be recoated or repainted on a periodic basis (5 to 10 years) to provide continued protection against corrosion.

(c) *Ventilation.* 1. All covered wet wells shall be vented to the atmosphere using an inverted "j" tube or other means. Adequate ventilation shall also be provided for all dry wells. Where the dry well is below the ground surface, permanent mechanical ventilation shall be provided.

2. A permanent mechanical ventilation system shall be provided for built-in place lift stations where stairways are installed in the wet well for routine entrance to inspect or maintain equipment. In all other cases, portable mechanical ventilation equipment shall be available for wet wells as required for entry to a confined space.

3. There shall be no interconnection between the wet well and dry well ventilation systems. Switches for operation of ventilation equipment shall be marked and conveniently located. All intermittently operated ventilating equipment shall be interconnected with the respective wet well or dry well lighting system. Consideration shall be given to automatic controls where intermittent operation is used. The manual lighting and ventilation switches shall override the automatic controls.

4. The fan wheel for ventilating hazardous areas shall be fabricated from nonsparking material. This does not apply to areas unclassified according to National Electrical Code criteria, or to nonhazardous areas.

5. Mechanical ventilation for wet wells shall provide at least 12 complete air changes per hour if ventilation is continuous and at least 30 complete air changes per hour if ventilation is intermittent. Air shall be forced into the wet well by mechanical means rather than exhausted from the wet well.

6. Mechanical ventilation for dry wells shall provide at least 6 complete air changes per hour if ventilation is continuous and at least 30 complete air changes per hour if ventilation is intermittent. For conserving heat in large lift stations, the department may approve the following 2 exceptions:

a. Intermittent ventilation with an initial ventilation rate of 30 complete air changes per hour for 10 minutes and automatic switch over to 6 complete air changes per hour.

b. A continuous ventilation system at a rate of 6 complete air changes per hour when the dry well is occupied and at a rate of 2 complete air changes per hour when not occupied.

(d) *Auxiliary equipment*. The following auxiliary equipment shall be installed in lift stations:

1. All dry wells shall be equipped with automatic heaters. The department may waive this requirement if it can be demonstrated that the heat output from the pump motors or controls is sufficient to keep equipment in the dry well from freezing.

2. The installation of dehumidifiers shall be considered for all underground dry wells.

3. Running time meters shall be installed for each pump in all lift stations. Where the department determines that flow measurement is necessary for the proper operation of the collection system or treatment system, suitable devices for measuring, totalizing, and recording flow shall be installed.

(e) *Electrical equipment*. 1. Electrical systems and components including motors, lights, cables, conduits, switchboxes, and control circuits, which will be located in wet wells, or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors may be present, shall comply with the National Electrical Code requirements for Class 1, Group D, Division 1 locations. In addition, equipment located in the wet well shall be suitable for use under corrosive conditions. Each flexible cable shall be provided with a watertight seal and separate strain relief. A fused disconnect switch or equivalent circuit breaker located above ground shall be provided for the main power feed for all lift stations. When the equipment is exposed to weather, it shall meet the requirements of weatherproof equipment. A 110 volt ground fault circuit interrupter protected duplex receptacle shall be provided at or near the control panels to facilitate maintenance.

2. Dry Wells which are adjacent to, and physically separated from, Class 1, Group D, Division 1 wet wells, are electrically unclassified (nonhazardous) areas according to National Electrical Code criteria, provided the dry well is continuously ventilated. Explosion-proof equipment in a continuously ventilated dry well is not required.

(f) *Duplicate units*. At least 2 pumps or pneumatic ejectors shall be provided in each lift station. Each pump or ejector shall be capable of pumping the design pumping rate as determined by sub. (2) (b). If 3 or more pumps are provided, they shall be designed to meet expected flow conditions and shall be capable of pumping the peak hour design pumping rate as determined by sub. (2) (b), with the largest unit out of service. Where the lift station will serve not more than 25 residential units, a single pump or ejector may be used, provided that the station is designed to permit the installation of a future duplicate pump or ejector with no structural changes.

(g) *Pumps*. 1. All pumps, except grinder and effluent pumps, shall be capable of passing spheres of at least 7.6 centimeters (3 inches) in diameter, and pump suction and discharge piping shall be at least 10 centimeters (4 inches) in diameter. The department may allow the use of pumps with a lesser solids handling ability provided the pump is protected by a comminutor, a mechanically cleaned bar screen, or other suitable equipment.

2. All pumps shall be nonclogging. Where a potential for clogging exists, protection in the form of manual bar screens, mechanically cleaned bar screens, comminutors or other suitable means shall be provided. Bar screens and comminutors shall be installed in accordance with s. NR 110.16.

3. Each pump shall be located so that under normal operating conditions it will operate under a positive suction head. Self– priming or vacuum primed pumps with adequate suction lift capability are exempted from this requirement.

(h) *Piping*. 1. Each pump, except submersible, screw, grinder and effluent pumps, shall be equipped with individual suction piping. Suction piping shall be as straight as possible.

2. When suction elbows are used, the bell shall be placed above the floor of the wet well at a distance which is not greater than 1/2 nor less than 1/3 the diameter of the bell.

3. A suitable shutoff valve shall be placed on each discharge line, except for screw pumps. A shutoff valve shall be placed on each suction line of the dry well pump. A check valve shall be placed on each discharge line between the shutoff valve and the pump, except for screw pumps. Check valves shall be placed in horizontal sections of the discharge pipe, except for ball check valves, which may be placed in the vertical run.

4. All valves shall be located in a separate valve vault, either as an integral part of the lift station, or near the lift station. Ball check valves may be located in the wet wells provided the ball check valve can be removed without entering the wet well. Valve vaults may be dewatered to a wet well through a drain line equipped with a ball check valve or a gate valve, provided the drain line discharges to the wet well below the low water level to prevent entry of hazardous gases to the valve vault.

(i) *Controls*. 1. Control systems shall be of the air bubbler type, the encapsulated float or displacement type, the ultrasonic type, the pressure transducer type or capacitance probe type.

2. The control system shall be located away from the turbulence of incoming flow and pump suction.

3. Provisions shall be made to automatically alternate the pumps in use where multiple equivalent capacity pumps are installed.

4. All lift stations shall be equipped with an alarm system. The alarm system shall include audible signals. The alarm system shall be activated in cases of power failure, pump failure, and at predesignated low and high water levels. It is also recommended that alarm systems be activated in the event of unauthorized entry or other lift station malfunction. Alarm system signals shall be telemetered, to responsible authorities. The department may allow an audio and visual alarm system in lieu of the above requirements, depending upon location, holding capacity in the wet well and inspection frequency, on a case-by-case basis.

(j) *Force mains*. 1. At the design pumping rate, a cleansing velocity of at least 61 centimeters per second (2 feet per second) shall be maintained.

2. A combination automatic air relief and vacuum valve or an automatic or manual air relief valve shall be placed at each high point in the force main to prevent air locking.

3. When a force main enters the gravity sewer manhole, it shall discharge at a point not more than 60 centimeters (2 feet) above the spring line of the receiving sewer.

4. Friction losses through force mains shall be based on the Hazen and Williams formula or other acceptable method. When the Hazen and Williams formula is used, the department recommends a "C" value between 100 and 125 be used for all pipe except plastic pipe. A "C" value between 120 and 140 is recommended for plastic pipe. The "C" value used for design shall be noted on the design report. When initially installed, force mains may have a significantly higher "C" value. The lower "C: value (higher coefficient of friction) should be considered when

calculating the head at design conditions. The higher "C" value should be considered when calculating the minimum head in the pump operating range power requirements.

(4) SUCTION LIFT PUMPS OR WET WELL MOUNTED LIFT STATIONS. (a) *Priming*. Suction lift pumps shall be of the self–priming or vacuum primed type and shall comply with applicable requirements of sub. (3), except as modified in this section.

(b) *Lift*. The total dynamic suction lift may not exceed 6.0 meters (20 feet), unless the department approves pumps which exceed this specified limit based on certified pump performance curves and detailed calculations which justify the higher heads.

(c) *Compartment separation*. The pump equipment compartment shall be above grade, partially recessed in the ground or offset and shall be isolated from the wet well in a manner which will prevent the humid and corrosive sewer atmosphere from entering the equipment compartment. Wet well access may not be through the equipment compartment and shall be at least 24 inches in diameter or equivalent area. Gasketed replacement plates shall be provided to cover the openings to the wet well when pumps are removed for servicing.

(d) *Electrical.* Float type displacement switches and electronic transducers which are used in wet wells shall comply with the applicable requirements of sub. (5).

(5) SUBMERSIBLE LIFT STATIONS. (a) *Construction*. Submersible pumps and motors shall be designed specifically for raw sewage use, and for total submergence during operation, and shall comply with the applicable requirements of sub. (3), except as modified in this subsection.

(b) *Pump removal*. Submersible pumps shall be readily removable and replaceable without dewatering the wet well or disconnecting any piping in the wet well. Removal of one submersible pump from the lift station may not interrupt the operation of other pumps in the station.

(c) *Electrical equipment*. 1. Electrical supply, control, and alarm circuits shall be designed to provide strain relief appurtenances. All junction boxes containing terminals and connectors shall be protected from corrosion by being located outside the wet well. Junction boxes for motor power cable connections and for intrinsically safe control circuits shall meet the requirements of weatherproof equipment.

2. The motor control center shall be located outside the wet well and be protected by conduit seals or other appropriate measures meeting the requirements of the National Electrical Code to prevent the atmosphere of the wet well from gaining access to the control center. A separate conduit and a conduit seal for intrinsically safe control circuits including float switches or electronic transducers shall also be provided to comply with the National Electrical Code requirement. In addition, a silicon seal or a duct seal may be used at the junction box to prevent moisture entering the junction box. The explosion proof seals shall be so located that the pump motor and the level control float switches or transducers can be removed and electrically disconnected at the respective junction box without destroying the seal. The level control float switches shall be suspended in the wet well or mounted on a portable pole to facilitate maintenance.

3. Pump motor power cables shall be designed for flexibility and serviceability. Ground fault interruption protection shall be provided in accordance with the National Electrical Code requirements. Power cord terminal fittings shall be corrosion–resistant and constructed in a manner to prevent the entry of moisture into the cable, shall be provided with strain relief appurtenances, and shall be designed to facilitate field connecting.

(d) *Explosion prevention*. In order to minimize the potential for ignition of explosive gases in submersible lift stations, one of the following requirements shall be met:

1. Ignition hazards from pump motors shall be addressed by complying with one of the following requirements:

a. Low water level controls may be set such that the pump motor will remain totally submerged at all times. The lift station shall be equipped with a low water alarm in addition to meeting the requirements of sub. (3) (i) 4., and which is distinguishable from the high water alarm; or

b. The pump motor may be rated for compliance with the National Electrical Code (NEC) explosion proof requirements of Class 1, Group D, Division 1 locations.

2. All motor power cables and all other wiring, located in the wet well, shall be NEC cable rated SO or STO, or better.

3. All electrical level control circuits using mercury displacement or float type switches, or electronic transducers, shall be intrinsically safe.

SECTION 58. NR 110.14 (6) through (8) are created to read:

NR 110.14 (6) WET WELL OR DRY WELL LIFT STATIONS. (a) *Construction*. The wet well/dry well lift stations shall be designed specifically for raw sewage use and shall comply with applicable requirements of sub (3), except as otherwise provided in this section.

(b) *Electrical*. When float type displacement switches or electronic transducers are used to control the liquid level in the wet well, they shall comply with the applicable requirements of sub (5).

(7) SCREW PUMP STATIONS. (a) *Applicability*. Screw pumps may be approved by the department on a case-by-case basis upon submission of appropriate manufacturer's data and the detailed design calculations.

(b) *Construction*. Screw pumps and motors shall be designed specifically for raw sewage use, and shall comply with applicable requirements of sub (3).

(8) PNEUMATIC EJECTOR LIFT STATIONS. (a) *Applicability*. Pneumatic ejectors may be approved by the department on a case-by-case basis upon submission of appropriate manufacturer's data and the detailed design calculations.

(b) *Construction*. Pneumatic ejectors shall be designed specifically for raw sewage use, and shall comply with the applicable requirements of sub (3).

(c) *Compressors*. Multiple compressors shall be provided. The compressors shall be sized to handle the peak hour design flow with the largest compressor out of service.

SECTION 59. NR 110.14 (6) is renumbered and amended to read:

NR 110.14 (~~6~~ 9) GRINDER PUMP LIFT STATIONS - DUPLEX. ~~(a) Applicability.~~ The department may approve ~~the use of~~ duplex grinder ~~pumps in~~ pump lift stations ~~if the following requirements are met~~.

~~1. No more than 12 residential units may ultimately be served by 1 lift station; and~~

~~2. The total motor horsepower requirement for each pump shall be 2 horsepower or less.~~

~~(b) Duplicate units. Grinder pump lift stations serving more than 3 residential units shall be equipped with duplicate pumping units.~~

~~(c) Construction. Grinder~~ All duplex grinder pump lift stations shall be designed specifically for raw sewage use. Submersible duplex grinder pump lift stations shall meet the submersible pump requirements of sub. (5), and the non-submersible type duplex grinder pump lift stations shall comply with applicable requirements of sub. (6), except that each grinder pump shall have a minimum 1 ¼-inch pump opening and discharge piping. The total motor horsepower requirement for each pump shall be 5 horsepower or less.

SECTION 60. NR 110.14 (7) is renumbered and amended to read:

NR 110.14 (~~7~~ 12) EMERGENCY OPERATION. (a) *General*. Provisions for emergency operation of lift stations shall be provided to prevent the discharge of raw or partially treated sewage to a surface water or to a ground surface and to prevent sewage backups into basements.

(b) *Lift station requirements*. One of the following provisions shall be made to insure continued operation of each lift station~~s~~:

1. An on−site generator, with automatic switching and starting equipment may be installed. The generator shall have sufficient capacity to meet the total electrical demands of the pumps, controls, and auxiliary equipment; or

2. An on−site gasoline or diesel engine driven pump, with automatic switching and starting equipment may be installed. The pump shall have a capacity equal to or greater than the lift station peak design pumping rate; or

3. A portable generator may be available for use at the lift station. The generator shall have sufficient capacity to meet the total electrical demands of the pumps, controls, and auxiliary equipment. Electrical connections shall be accessible without maintenance personnel having to enter the lift station. A portable generator may not be allowed to serve more than 3 lift stations unless prior approval has been given by the department based upon adequate written justification provided in the form of an emergency plan of operations; or

4. A portable pump with a pumping capacity equal to or greater than the lift station peak design pumping rate may be available for use at the lift station. ~~Connections for the portable pumping equipment~~ Quick disconnect fittings shall be used to connect the portable pump to the suction and the discharge line, and shall be accessible without maintenance personnel having to enter the lift station. A portable pump may not be allowed to serve more than 3 lift stations unless adequate written justification is provided in the form of an emergency plan of operation; or

5. The lift station electrical system may be connected to 2 independent electrical transmission routes which receive power from the same electrical grid network which supplies power to the lift station service area; or

6. The lift station may be equipped with a holding facility which has a capacity to hold the ~~daily~~ average design flow for a minimum period of 24 hours.

(c) *Grinder pump and effluent pump lift stations*. 1. Emergency operation of duplex grinder pump and effluent pump lift stations which serve more than 3 residential units shall be provided by one of the methods described in par. (b).

2. Emergency operation provisions for duplex grinder pump and effluent pump lift stations may be waived for those stations which serve homes with private water supply systems provided it is demonstrated to the department that the lift station wet well has the capacity to hold the residual water volume of the private water supply system.

SECTION 61. NR 110.14 (10) and (11) are created to read:

NR 110.14 **(10)** GRINDER PUMP LIFT STATIONS – SIMPLEX. (a) *Applicability*. The department may approve simplex or individual grinder pump lift stations if no more than 3 residential units are ultimately served by 1 pump.

(b) *Construction*. All simplex grinder pump lift stations shall be designed specifically for raw sewage use. The submersible grinder pump shall be designed for total submergence during operation. Both the submersible and the non-submersible type simplex grinder pump stations shall comply with the following requirements:

1. Location. The location of the grinder pump stations and pressure service laterals shall be shown on the plans.

2. Flood proofing. Grinder pump stations located in the floodplain shall be flood proofed by constructing 2 feet above the 100 year flood elevation or by providing watertight covers.

3. Pump removal. Grinder pumps shall be readily removable without entry into the wet well or dewatering the wet well.

4. Valving. a. All valving shall be accessible without entry into the wet well or dewatering the wet well.

b. If a grinder pump station discharges to a common pressurized sewer, a redundant check valve shall be provided. All valves including redundant check valves shall be installed at the grinder pump station. If a grinder pump station discharges to a gravity sewer, the redundant check valve is not required.

5. Ventilation. All grinder pump stations shall be vented to the atmosphere either from the wet well or from the service lateral.

6. Accessibility. No permanent ladders or steps shall be provided in the wet wells.

7. Pump size. All grinder pumps shall have a minimum 1 ¼-inch pump inlet opening and discharge piping.

8. Velocity. A minimum velocity of 2 feet per second shall be maintained in the discharge piping during pump operation.

9. Separation. A minimum separation distance of 25 feet shall be maintained between the grinder pump lift station and a private well in accordance with s. NR 812.08 (4) or 200 feet from a public well in accordance with s. NR 811.16(4) (d).

10. Alarm. Audible and visual high water alarm system shall be provided.

11. Electrical. a. The motor control unit shall be located outside the wet well.

b. All junction boxes shall be located outside the wet well, and shall meet the requirements of weather proof equipment. Electrical supply, control and alarm circuits shall be designed to allow disconnection at the junction box, without destroying the conduit-seal.

c. Level controls using float type displacement switches shall be suspended in the wet well to facilitate maintenance.

12. Explosion prevention. a. In order to reduce the potential for ignition of explosive gases in submersible grinder pump lift stations, the low water level alarm shall be set such that the pump motor will remain totally submerged at all times; or the pump motor shall be rated explosion proof in accordance with NEC requirements of Class I, Group D, Division 1 locations; or the motor shall be listed as safe and appropriate for residential use by the Underwriters Laboratories, Inc.

b. In order to reduce the potential for ignition of explosive gases in non-submersible grinder pump lift stations with non-explosion proof pump motors, the pump motor shall be completely isolated from the wet well atmosphere in a separate gas tight housing.

(11) EFFLUENT PUMPS. The department may approve the duplex and simplex effluent pump lift stations for septic tank effluent in accordance with the applicable requirements of subs (9) and (10), respectively.

SECTION 62. NR 110.15 (2) (a) is amended to read:

NR 110.15 **(2)** EFFLUENT QUALITY. (a) *Design*. Sewage treatment facilities shall be designed to achieve compliance with the monthly and weekly average effluent limitations for biochemical oxygen demand (BOD) and total suspended solids contained in ch. NR 210, or other WPDES permit requirements, as appropriate, or with any more stringent water quality related effluent limitations required to achieve appropriate water quality standards derived from chs. NR ~~102 to 104~~ 102 to 106, or from any federally promulgated water quality standard for any waters of the state.

SECTION 63. NR 110.15 (3) (e) is created to read:

NR 110.15 (3) (e) *Protection of water supply wells*. Wastewater lagoons or storage structures shall be located with a minimum separation distance of 1,000 feet from a community water supply well, and 100 feet from a private water supply well. Wastewater treatment plant effluent pipes shall be located with a minimum separation distance of 50 feet from a private water supply well.

SECTION 64. NR 110.15 (4) (c) is amended to read:

NR 110.15 (4) (c) *Hydraulic loading*. The design wastewater flow rate shall be estimated in accordance with s. NR 110.09 (2) (j). When flow or water use records do not exist, the maximum hour design flow rate shall be estimated by multiplying the average design flow rate by the appropriate peaking factor shown in Table 2.

SECTION 65. NR 110.15 (5) (c) is amended to read:

NR 110.15 (5) (c) *Flow measurement*. Equipment for flow measurement and recording shall be provided for the total waste flow. The total waste flow shall be determined by measuring both the plant influent and effluent flow. Influent flow measurement devices shall be located upstream of the introduction of any plant recycle or side stream flows. The method of flow measurement shall conform with s. NR 218.05. Flow measurement, including entrance and discharge conduit configuration and critical control elevations, shall be designed to ensure that the required hydraulic conditions necessary for accurate measurement are provided. Equipment for measuring flow streams within the treatment facility should be provided as necessary to aid facility operation.

SECTION 66. NR 110.18 (2) (d) is amended to read:

NR 110.18 (2) (d) *Design parameters*. 1. Operating design parameters for settling facilities may not exceed the values given in Table 3. The surface settling rate for primary settling tanks shall be calculated with all flows received at the settling tank. The surface settling rate for final settling tanks shall be based on influent flow. The maximum hour solids loading shall be computed based on the maximum day design flow rate plus the maximum design return sludge rate requirement and the design mixed liquor suspended solids (MLSS) under aeration.

SECTION 67. NR 110.19 (5) (b) 2. is amended to read:

NR 110.19 (5) (b) 2. The underdrains shall have a minimum slope of 1%. Effluent channels shall be designed to produce a minimum velocity of 60 centimeters per second (2 feet per second) at the average ~~daily~~ design flow rate of application to the filter including recirculated flows.

SECTION 68. NR 110.19 (6) (b) 1. is amended to read:

NR 110.19 (6) (b) 1. *Quality*. 1. Rock and slag media shall be durable, resistant to spalling or flaking, and be relatively insoluble in sewage. Slag media may not contain iron. ~~The top 46 centimeters (18 inches) of natural aggregate shall have a loss of not more than 10% as measured by the 20 cycle, sodium sulfate soundness test, with the balance passing a 10 cycle test. The test shall be done in accordance with ASCE Manual of Engineering Practice, Number 13.~~

SECTION 69. NR 110.21 (4) (b) is amended to read:

NR 110.21 (4) (b) *Permissible loadings*. In lieu of the design calculation requirements of par. (a), the parameters shown in Table 5 may be used to design aeration tank capacities. The volumetric loadings in Table 5 shall be based on the organic load influent to the aeration tank at the average design BOD_5 loading rate.

SECTION 70. NR 110.21 (4) Table 5 (title) is amended to read:

NR 110.21 (4) **Table 5**

Process	F/M ~~mg BOD applied/~~ Ratio mg BOD $_5$/d/mg MLVSS~~.d~~	Volumetric Loading kg BOD ~~=~~ ~~applied~~/m^{3}~~.~~/d (lbs. BOD ~~applied~~/1000ft^{3}~~.~~/d)	MLSS mg/1

SECTION 71. NR 110.21 (4) (d) 5. is amended to read:

NR 110.21 (4) (d) 5. Inlets and outlets for each aeration tank unit shall be equipped with valves, gates, stop plates, weirs or other devices to permit controlling the flow to each tank and to maintain a constant liquid level. The hydraulic properties of the system shall permit the ~~maximum~~ peak instantaneous design flow to be carried with any single aeration tank unit out of service.

SECTION 72. NR 110.21 (5) (b) and (c) are amended to read:

NR 110.21 (5) (b) *Oxygen demand*. 1. Aeration equipment shall be capable of maintaining a minimum mixed liquor dissolved oxygen concentration of 2 milligrams per liter.

2. In the absence of experimentally determined values, the design oxygen requirements for all activated sludge processes shall be 1.1 kilograms oxygen per kilogram peak hour ~~BOD~~ BOD_5 (1.1 pounds oxygen per pound peak ~~BOD5~~ hour BOD_5) removed in the aeration tanks, with the exception of the extended aeration process, for which the value shall be ~~1.8~~ 1.5 kilograms oxygen per kilogram peak ~~BOD5~~ hour BOD_5(~~1.8~~ 1.5 pounds oxygen per pound peak ~~BOD5~~ hour BOD_5) to include endogenous respiration requirements.

3. To provide nitrification, the oxygen requirement for oxidizing ammonia shall be added to the requirement in subd. 2. for carbonaceous BOD_5 removal and endogenous respiration requirements. In the absence of experimentally determined values, the nitrogen oxygen demand (NOD) shall be 4.6 kilograms of oxygen per kilogram removed peak hour total Kjeldahl nitrogen (TKN) (4.6 pounds oxygen per pound removed peak hour TKN).

(c) *Air supply to meet oxygen demands*. 1. The design of the aerator system to provide the oxygen requirements calculated in accordance with par. (b) shall be done using standard design equations for diffused and mechanical aeration systems. Calculations shall incorporate such factors as tank depth, alpha factor of the waste, beta factor of the waste, certified aerator oxygen

transfer efficiency, minimum aeration tank dissolved oxygen concentration, critical wastewater temperature and altitude of the wastewater treatment facility.

2. In the absence of specific design information, the air requirements for diffused aerators shall be calculated using an oxygen transfer efficiency of 7% ~~for diffused aerators, or a~~ in clean water under standard test conditions. The air requirements for mechanical aerators shall be based on a transfer rate of 1.2 kilograms oxygen per kilowatt−hour (2 pounds oxygen per horsepower−hour) ~~for mechanical aerators~~ in clean water under standard test conditions.

SECTION 73. NR 110.21 (6) (a) 2. is amended to read:

NR 110.21 (6) (a) 2. Diffusers and air piping shall be capable of supplying the ~~diurnal~~ peak hour air demand or 200% of the design average air demand, whichever is larger.

SECTION 74. NR 110.21 (6) (b) 1. is amended to read:

NR 110.21 (6) (b) *Mechanical aerators*. 1. Multiple mechanical aeration units shall be designed and located so as to meet the ~~diurnal~~ peak hour oxygen demand or 200% of the design average oxygen demand, whichever is larger, with one unit out of service.

SECTION 75. NR 110.22 (5) (b) 3. is amended to read:

NR 110.22 (5) (b) 3. ~~Filtration rates~~ For high rate effluent filtration, the filtration rate at maximum ~~daily~~ hour design flow may not exceed 3.4 liters per second per square meter (5 gallons per minute per square foot) ~~with one filter out of service~~ The filtration rate shall be calculated on the total available filter area with one filter unit out of service.

SECTION 76. NR 110.22 (5) (c) 4. is amended to read:

NR 110.22 (5) (c) 4. Spent backwash shall be individually treated or returned to the head of the treatment facility. The return rate of backwash to the head of the treatment facility may not exceed 15% of the ~~design~~ average ~~daily~~ design flow rate.

SECTION 77. NR 110.22 (6) (c) is amended to read:

NR 110.22 (6) (c) *Recirculation tanks*. ~~1.~~ Recirculation tanks shall be equipped with a highwater and pump failure alarm.
~~2. Recirculation tanks shall have a minimum detention time of 24 hours.~~

SECTION 78. NR 110.22 (7) (c) is amended to read:

NR 110.22 (7) (c) *Loading*. 1. The loading rate for installations which operate with significant rest periods may not exceed 41 liters per square meter (one gallon per square foot) per day, at the average design flow.

2. The loading rate for filters which operate on a continuous basis may not exceed 20 liters per square meter (0.5 gallons per square foot) per day, at the average design flow, for total bed area.

SECTION 79. NR 110.23 (2) (d) is amended to read:

NR 110.23 (2) (d) *Chlorine control systems*. In all systems with an average design flow of greater than 945 cubic meters per day (0.25 million gallons per day), the chlorine feed mechanism shall be provided with either an automatic flow proportional control or an automatic residual control. Chlorine residual analyzers shall be located near the chlorine contact tank. The total response time for automatic residual control systems may not exceed 3 minutes.

SECTION 80. NR 110.23 (2) (e) 2. is amended to read:

NR 110.23 (2) (e) 2. A chlorine contact tank shall be provided and shall be sized to provide a detention time of 60 minutes at average design flow or 30 minutes at maximum hour design flow.

SECTION 81. NR 110.24 (2) (b) is amended to read:

NR 110.24 (2) (b) *Stabilization ponds*. 1. Stabilization ponds may be used to treat domestic wastewater. Combined domestic and industrial wastewater may be treated in stabilization ponds only if the treatability of the industrial wastewater is demonstrated through pilot testing.

2. ~~Pond design for~~ The BOD_5 loading to any one pond may not exceed 23 kilograms per hectare (20 pounds per acre) per day.

3. A minimum hydraulic detention time of 150 days at the average design flow shall be provided in the entire treatment pond system. In accordance with s. NR 210.06 (3) (g), a stabilization pond system which discharges to surface water, and has a hydraulic detention time of 180 days or longer at average design flow, does not require disinfection except in extenuating circumstances.

SECTION 82. NR 110.24 (3) (d) 3. is amended to read:

NR 110.24 (3) (d) 3. Soil sampling shall be performed in accordance with ASTM ~~D1586 (1974) or ASTM D1587 (1974)~~ D1586-08a or ASTM D1587-08.

SECTION 83. NR 110.24 (4) (d) is amended to read:

NR 110.24 (4) (d) *Sampling and testing standards.* 1. Core samples taken to determine soil texture, grain size distribution or permeability shall be taken in accordance with ASTM ~~D1586 (1974), ASTM D1587 (1974), or ASTM D 3350 (1977)~~ D1586-08a, ASTM D1587-08, or ASTM 3550-01 (2007).

SECTION 84. NR 110.24 (6) (a) through (c) are amended to read:

NR 110.24 **(6)** AERATION EQUIPMENT. (a) *Air requirements*. Air shall be provided to the aerated lagoons at a rate of not less than 1.5 kilograms oxygen per kilogram (1.5 pounds of oxygen per pound) of peak hour BOD removed.

(b) *Surface aeration equipment*. 1. The department may approve the use of surface aeration equipment only in those cases in which the equipment can be properly maintained and operated during the winter.

2. Surface aeration equipment shall be so designed and placed to provide optimum mixing of pond lagoon contents and dispersion of oxygen to the waste. Unless sufficient justification is presented to the contrary, surface aerators shall be designed using an oxygen transfer rate of 1.2 kilograms of oxygen per kilowatt−hour (2.0 pounds of oxygen per horsepower−hour) in clean water under standard conditions.

(c) *Subsurface aeration equipment*. 1. Flexible tubing containing air release slits shall be provided across the lagoon bottom in accordance with the manufacturer's recommendations. Air tubing shall be securely anchored to prevent floating. To prevent clogging of the air lines, provision shall be made to accommodate cleaning.

2. Air tubing and anchors shall be constructed of materials which resist corrosion.

3. Air shall be supplied to the lagoon system at a rate sufficient to meet the oxygen requirements of par. (a) assuming an oxygen transfer efficiency of 7% in clean water under standard conditions.

4. Tubular aeration units shall be provided in sufficient number to supply adequate air to the pond system based on a maximum transfer rate of 0.6 kilograms (1.25 pounds) of oxygen per unit per hour in clean water under standard conditions.

5. Where data is presented to the department to justify oxygen transfer rates varying from the requirements of this paragraph the department may approve such design transfer rates.

SECTION 85. NR 110.25 (5) (b) 1. and 3. are amended to read:

NR 110.25 (5) (b) *Well locations*. 1. A minimum of 3 monitoring wells per land disposal system shall be installed to monitor groundwater quality in accordance with s. NR 206.10 (2), to determine flow ~~direction(s)~~ directions and for a flow rate determination. At a minimum, one well will be upgradient and ~~2~~ one wells downgradient of the land disposal system.

3. ~~Two or more downgradient~~ Downgradient wells shall be located so as to intercept any groundwater impacted by the land disposal system, considering the vertical and horizontal gradients of flow. The wells shall be no closer than 30 feet for rapid infiltration systems, and at a minimum, one well shall be located between the application area and the design management zone (DMZ) or property boundary. It is recommended that one well be located at or beyond the DMZ or property boundary. If the well is located beyond the property boundary, an easement for access shall be obtained prior to installation of a well.

SECTION 86. NR 110.25 (5) (c) 3. and 5. are amended to read:

NR 110.25 (5) (c) 3. All groundwater monitoring systems shall be sampled in accordance with department published groundwater sampling procedures ~~contained in the "groundwater sampling guidelines," WDNR, Feb. 1987, or~~ as referenced in s. NR 140.16.

5. Documentation of well construction, well development and abandonment shall be submitted to the department in accordance with ss. NR ~~141.21~~ 141.23 and 141.25. A location map shall also be provided in accordance with s. NR 141.065.

SECTION 87. NR 114.153 (4m) is created to read:

NR 114.153 **(4m)** "Master Operator" means a certified operator who has been issued a master operator certificate by the department.

SECTION 88. NR 114.153 (5) is amended to read:

NR 114.153 **(5)** "Operator-in-charge" means the ~~certified~~ master operator who has been designated by the owner to be in direct responsible charge of the septage servicing business.

SECTION 89. NR 114.16 (1) is amended to read:

NR 114.16 General requirements. (1) Only a certified operator, master operator, operator–in–training or a portable restroom servicing assistant, may engage in septage servicing.

SECTION 90. NR 114.18 (title) and (1) are amended to read:
NR 114.18 Operator–in–charge or master operator. (1) The owner of a licensed business

shall designate to the department the operator−in−charge of the business based upon their type of business and method of septage disposal as follows:

(a) If a septage servicing business does not conduct any land application of septage, the operator−in-charge shall be a grade T or a grade L master operator.

(b) If a septage servicing business does conduct any land application, the operator−in−charge shall be a grade L master operator.

SECTION 91. NR 114.18 (2) is repealed.

SECTION 92. NR 114.18 (3) is renumbered and amended to read:

NR 114.18 **(3~~2~~)** ~~Any person not designated as an operator−in−charge in sub. (2) or not exempted in sub. (4) or (5)~~ Persons shall accrue at least 1600 hours of experience working in their designated grade certification over at least one calendar year, participate in a mandatory training class sponsored by the department and pass an examination associated with that class in order to become ~~designated an operator−in− charge in the future.~~ certified as a master operator. The class and examination may be taken prior to obtaining the required experience. The time and experience requirements shall be documented by the applicant through submittal of a notarized certification statement. The department may verify information submitted on a case−by−case basis. Master operator grade certification shall be consistent with their operator certification grade.

SECTION 93. NR 114.18 (3) is created to read:

NR 114.18 **(3)** The mandatory training class for designation as a master operator shall be offered at least twice a year and will cover topics relevant to the septage servicing business and will cover both land application and disposition of septage at wastewater treatment facilities.

SECTION 94. NR 114.18 (4) and (5) are repealed.

SECTION 95. NR 114.18 (6) is renumbered NR 114.14 (4).

SECTION 96. NR 114.19 (8) is amended to read:

NR 114.19 **(8)** The requirements of sub. (6) notwithstanding, applicants who fail the examination associated with the mandatory class required in s. NR 114.18 ~~(3)~~ (2) may retake the examination at a regional office whenever a mutually agreed time can be scheduled.

SECTION 97. NR 114.20 (1) (e) is created to read:

NR 114.20 (1) (e) Master operator -- $100.00

SECTION 98. NR 114.23 (1) and (2) are amended to read:

NR 114.23 **Continuing education and training requirements.** (1) Grade T and grade L certified septage operators shall obtain 3 hours of certified operator continuing education credits every 3 years.

(2) All grade T and grade L ~~operators-in-charge~~ master operators shall obtain 18 hours of continuing education credits every 3 years.

SECTION 99. NR 114.23 (4) is repealed.

SECTION 100. NR 114.23 (5) is renumbered and amended to read:

NR 114.23 **(~~5~~ 4)** Any certified operator may voluntarily participate in the mandatory training class required under s. NR 114.18 (2) and (3), even if not required to, and may receive the associated continuing education credit.

SECTION 101. NR 114.24 (1) is amended to read:

NR 114.24 Sanctions. (1) The department shall revoke an operator's certification and may not issue or renew a certificate for septage servicing for a period of 2 years if an operator has accumulated 6 or more violations of ch. NR 113, NR 114, or s. 29.601, Stats., in any 3 year certification period. Enforcement may be taken against the operator, the operator-in-charge responsible for the operator, or both. Each violation shall count against the business for purposes of license renewal as specified in s. NR 113.05 (3).

SECTION 102. NR 200.03 (1) is amended to read:

NR 200.03 Applicability and exclusions. (1) An application for a discharge permit shall be filed by any person who discharges or ~~intends~~ proposes to discharge any pollutant from a point source to the waters of the state, or who land applies or disposes of sludge as specified in ch. NR 204, unless the discharge is excluded under sub. (3). Discharges for which applications are required include, but are not limited to:

SECTION 103. NR 200.06 (2) is amended to read:

NR 200.06 (2) The application for reissuance of a permit shall be submitted ~~in a form approved by the department~~ electronically using the Department's web-based application system and shall be signed in accordance with s. NR 200.07 (4).

Note: http://dnr.wi.gov/environmentprotect/switchboard/

SECTION 104. NR 203.13 (3) (b) is amended to read:

NR 203.13 (3) (b) All persons filling out appearance slips at the public informational hearing, or who submitted written ~~statements~~ comments with respect to issuance of the permit even if a public informational hearing was not held.

SECTION 105. NR 205.07 (1) (n) is amended to read:

NR 205.07 (1) (n) *Duty to reapply*. If the permittee wishes to continue an activity regulated by the permit after the expiration date of the permit, the permittee shall apply electronically using the Department's web-based application system for a new permit.

Note: http://dnr.wi.gov/environmentprotect/switchboard/

SECTION 106. NR. 205.07 (1) (r) is amended to read:

NR 205.07 (1) (r**)** *Monitoring reports*. Monitoring results shall be reported at the intervals specified in the permit.

1. Monitoring results shall be reported on ~~a~~ an electronic discharge monitoring report (eDMR) or in a form approved by the department for reporting results of monitoring of sludge use or disposal practices.

Note: http://dnr.wi.gov/org/water/wm/ww/wwedmr.htm

2. If the permittee monitors any parameter more frequently than required by the permit, using test procedures specified in ch. NR 204 or 219, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the eDMR or sludge reporting form submitted to the department.

SECTION 107. NR. 205.07 (1) (r) 4. and (Note) are repealed.

SECTION 108. NR 205.07 (1) (u) is repealed.

SECTION 109. NR 205.07 (1) (v) is amended to read:

NR 205.07 (1) (v) *Scheduled bypassing.* Any construction or normal maintenance which results in a bypass of wastewater ~~from a treatment system~~ is prohibited unless authorized by the department in writing. If the department determines that there is significant public interest in the proposed action, the department may schedule a public hearing or notice a proposal to approve the bypass. Each request shall specify the following minimum information:

1. Proposed date of bypass;
2. Estimated duration of the bypass;
3. Alternatives to bypassing; ~~and~~
4. Measures to mitigate environmental harm caused by the bypass~~.~~; and
5. Estimated volume of the bypass.

SECTION 110. NR 205.07 (2) (d) is amended to read:

NR 205.07 (2) (d) *Unscheduled bypassing.* Any unscheduled ~~diversion or~~ bypass or overflow of wastewater at the treatment ~~work~~ works or from collection system is prohibited ~~except in the following cases:~~ , unless all of the following occur:

1. The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
3. The permittee notified the Department of the unscheduled bypass or overflow. The permittee shall notify the Department within 24 hours of initiation of the bypass or overflow occurrence by telephone, voicemail, fax or e-mail. The permittee shall also, within 5 days of conclusion of the bypass or overflow occurrence, report the following information to the Department in writing:

a. Reason the bypass or overflow occurred, or explanation of other contributing circumstances that resulted in the overflow event. If the overflow or bypass is associated with wet weather, provide data on the amount and duration of the rainfall or snow melt for each separate event.

b. Date the bypass or overflow occurred.

c. Location where the bypass or overflow occurred.

d. Duration of the bypass or overflow and estimated wastewater volume discharged.

e. Steps taken or the proposed corrective action planned to prevent similar future occurrences.

f. Any other information the permittee believes is relevant.

SECTION 111. NR 210.08 (1) (a) and (b) are amended to read:

NR 210.08 (1) (a) All sewage treatment ~~works~~ facilities shall, at a minimum, be able to maintain primary settling and effluent disinfection under all design conditions.

(b) All sewage treatment facilities discharging to class I, II, or III trout streams, or other critical stream segments as determined by the department, shall be able to operate all units critical to meeting the effluent limits as set forth in the WPDES permit for a minimum emergency period of 24 hours under all design flow conditions.

SECTION 112. NR 210.08 (2) is repealed and recreated to read:

NR 210.08 (2) Lift stations shall be provided with emergency operation in accordance with s. NR 110.14 (12).

SECTION 113. NR 210.11 is amended to read:

NR 210.11 Compliance maintenance annual report (CMAR). The CMAR ~~shall be submitted on or before June 30, 1987. Thereafter, the CMAR~~ shall be submitted to the department on ~~March 31~~ or before June 30 of each ~~subsequent~~ year and shall meet all applicable requirements. ~~The content of the CMAR is described in ch. NR 208. The CMAR shall be completed and signed by a duly authorized representative of the owner. In the case of a publicly owned treatment works, a resolution from the municipality's governing body shall accompany the CMAR and shall include the information specified in s. NR 208.04 (3)~~.

SECTION 114. NR 214.02 (2) is amended to read:

NR 214.02 **(2)** RESPONSIBILITY. The generator of these wastes shall be responsible for their handling and land application, except when an independent land application contractor has been issued a WPDES permit for the land treatment of these wastes. When the contractor is issued the WPDES permit, the independent contractor shall be responsible for the handling and application of these wastes to the land. A person may not land apply industrial waste or discharge industrial waste to a land treatment system unless the land application or discharge is authorized by a WPDES permit.

SECTION 115. NR 214.12 (4) (c) is created to read:

NR 214.12 (4) (c) The department may require electronic or paper submittal of discharge monitoring reports and land application forms.

SECTION 116. NR 214.13 (4) (c) is created to read:

NR 214.13 (4) (c) The department may require electronic or paper submittal of discharge monitoring reports and land application forms.

SECTION 117. NR 214.14 (4) (c) is created to read:

NR 214.14 (4) (c) The department may require electronic or paper submittal of discharge monitoring reports and land application forms.

SECTION 118. NR 214.15 (4) (c) is created to read:

NR 214.15 (4) (c) The department may require electronic or paper submittal of discharge monitoring reports and land application forms.

SECTION 119. NR 214.16 (2) (d) is repealed and recreated to read:

NR 214.16 (2) (d) A subsurface soil absorption system including a subsurface pressure distribution system or a subsurface mound system shall be constructed in accordance with design criteria contained in ch. Comm 83.

SECTION 120. NR 214.16 (2) (e) and (f), and (3) (e) are repealed.

SECTION 121. NR 214.16 (4) (c) is created to read:

NR 214.16 (4) (c) The department may require electronic or paper submittal of discharge monitoring reports and land application forms.

SECTION 122. NR 214.16 (6) is amended to read:

NR 214.16 (6) SOIL INVESTIGATION AND GROUNDWATER MONITORING REQUIREMENTS. The soil investigation and groundwater monitoring requirements for subsurface absorption systems are specified in ss. NR 214.20 and 214.21 or the department may accept soil investigations as required in ch. Comm 83 for certain types of wastewater and site conditions.

SECTION 123. NR 214.17 (5) (c) is created to read:

NR 214.17 (5) (c) The department may require electronic or paper submittal of discharge monitoring reports and land application forms.

SECTION 124. NR 214.18 (5) (d) is created to read:

NR 214.18 (5) (d) The department may require electronic or paper submittal of discharge monitoring reports and land application forms.

SECTION 125. NR 299.04 (1) (b) 7. is amended to read:

NR 299.04 (1) (b) 7. Any other appropriate requirements of state law as provided in ss. 281.17(10), 281.36, and 281.37, and 33 USC 1341 (d).

SECTION 126. NR 299.05(3)(f) is amended to read:

NR 299.05 (3) (f) All ~~grants, conditional grants or~~ denials or revocations of certification shall include a statement that unless a written request for a hearing is filed with the department within 30 days after mailing of the ~~notice~~ decision, the department's decision will become final without public hearing at the end of the 30-day period.

SECTION 127. NR 299.05 (3) (fm) is created to read:

NR 299.05 (3) (fm) All grants or conditional grants of certification shall include a statement that unless a written request for hearing is filed with the department within 30 days after publication of the decision, the department's decision will become final without public hearing at the end of the 30-day period.

SECTION 128. NR 328.03 (9) is amended to read:

NR 328.03 **(9)** "High energy site" means a site where the storm−wave height calculated under s. NR 328.08 (1) is greater than or equal to 2.3 feet, or where the erosion intensity score calculated under s. NR 328.08 (2) has a score of greater than 67.

SECTION 129. NR 328.03 (15) is amended to read:

NR 328.03 **(15)** "Moderate energy site" means a site where the storm−wave height calculated under s. NR 328.08 (1) is greater than or equal to 1.0 foot but less than 2.3 feet, or where the erosion intensity score calculated under s. NR 328.08 (2) has a score of 48 to 67.

SECTION 130. NR 328.05 (6) is amended to read:

NR 328.05 **(6)** REPLACEMENT OF AN EXISTING SEAWALL WITH RIPRAP OR VEGETATED ARMORING. Replacement of an existing seawall with riprap or vegetated armoring on the bed or

bank of a lake or flowage may be authorized under this general permit if it meets all of the requirements of sub. (5) (c) to (j) and s. NR 328.04 (3) ~~and sub. (5) (c) to (j)~~, with the exception that it may be located in an area of special natural resource interest, and may not exceed 500 linear feet.

SECTION 131. NR 328.35 (3) (p) is created to read:

NR 328.35 (3) (p) To stop the spread of invasive species and viruses from one navigable waterway to another navigable waterway, all equipment or portions of equipment used for constructing, operating, or maintaining the project, including tracked vehicles, barges, boats, silt or turbidity curtains, hoses, sheet piles, and pumps, shall be decontaminated for invasive species and viruses before and after use or prior to use within another navigable waterway. Decontamination activities shall be performed by taking actions specified in subd. 1. to 3. or 8. Decontamination shall include either subd. 4., 5., 6., 7., or 8. for any equipment, or portions of equipment, that is used in non−frozen navigable waters when the air temperature is above 19 degrees Fahrenheit at the time the decontamination procedures take place.

1. Inspect all equipment used for constructing, operating, or maintaining the project and remove all plants and animals, and other mud, debris, etc.

2. Drain all water from equipment used in navigable waters.

Note: This does not apply to water in closed engine cooling systems or water tanks, or containers of potable drinking water or other beverages meant for human consumption. If a tanker truck discharges water collected from navigable waters in upland areas, the tank does not require disinfection.

3. Dispose of plants and animals in the trash. An operator may not transfer plants or animals or water from one navigable waterway to another.

4. Wash equipment at a temperature of not less than 212 degrees Fahrenheit water (steam clean).

5. Wash equipment with soap and water or high pressure water of not less than 2000 pounds per square inch.

6. Allow equipment to dry thoroughly for not less than 5 days.

Note: Additional drying techniques including drying through natural or mechanical means or changes in drying duration may be submitted to the department for review and approval.

7. Disinfect equipment with 200 parts per million (0.5 ounces per gallon) chlorine for not less than 10 minute contact time. Every effort should be made to keep the disinfection solution and rinse water out of surface waters.

Note: Chlorine refers to either household bleach solution (5.25% chlorine) or granular chlorine (70% calcium hypochlorite).

8. Follow the most recent department approved disinfection protocols or department approved best management practices for infested waters. The department shall maintain on its website and make available at its offices a list of the most recent disinfection protocols or department approved best management practices for invasive species and viruses.

Note: See the department's website at dnr.wi.gov under the topic "Waterway and Wetlands". Recommendations for additional disinfection or decontamination protocols or department approved best management practices may be submitted to the department for review and approval to be added to this list.

SECTION 132. NR 341.09 (1) (b) and (c) are amended to read:

NR 341.09 (1) (b) If the department determines that a ~~pond or artificial water body~~ grading application submitted under this section has the potential to impact an endangered or threatened species in accordance with s. 29.604, Stats., the application shall be deemed incomplete until the applicant submits documentation to demonstrate one of the following:

1. The ~~pond or artificial water body~~ grading project avoids impacts to the endangered or threatened species in accordance with s. 29.604, Stats.

2. The ~~pond or artificial water body~~ grading project has received an incidental take authorization under s. 29.604, Stats.

(c) If the applicant modifies their ~~pond or artificial waterbody~~ grading project plans to meet the requirements of par. (b), the modified plans shall be submitted before the department can consider the application complete or issue an individual permit.

SECTION 133. NR 812.08 (4) (b) 11. is amended to read:

NR 812.08 (4) (b) 11. Buried pressurized sewer pipe conveying manure provided that the pipe meets ASTM specification D−2241, with standard dimension ratio of 21 or less or pressure pipe meeting the requirements of s. NR 110.13 ~~(6) (f)~~ or 811.62.
~~**Note:** There is no NR 110.13 (6) (f).~~

SECTION 134. NR 812.08 (4) (b) 11. (Note) is repealed.